DOMESTIC ENGINEERING

A Weekly Record of Progress in Plumbing, Heating, Ventilation and all Matters Pertaining to Domestic Sanitation

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VITALIZING POWER OF ADVERTISING IS OFFICIALLY RECOGNIZED BY AMERICAN INSTITUTE OF ARCHITECTS

THAT advertising is an essential and creative force and of great importance in developing professional and business prestige was officially recognized by the American Institute of Architects in recent convention assembled.

The constitutional edict of the organization that "it is unprofessional to advertise" was formally repealed, and members were given perfect freedom of action in the matter of publicity.

In the report of the committee on advertising, it was held that the rule against advertising was eminently unwise, inasmuch as the practice of architecture owes its very existence to publicity, and that, in the interest of progress, it was high time to recognize openly that the place for one's light is on a candlestick rather than under a bushel.

The action of the Institute is but a further verification of the incontestable fact that advertising is a really vitalizing power in modern business. Whether in war or peace the fact is equally invincible, serving again to weld stronger the truth of the old adage that advertising is the life of sales.

Every intelligent person knows what advertising has accomplished in this country and among our Allies in giving impetus to the gigantic war program. Consider what would have become of the Liberty Loan and Red Cross campaigns if the elements of advertising and publicity had been absent.

President Wilson in paying tribute to the important services which advertising has rendered in the war, said recently: "Advertising is our strong and loyal ally."

Many a wholesaler and retailer, whether in war or peace, can confirm the sentiment of the nation's chief executive. Through the years they have found advertising an indispensable ally in holding or extending the line of sales.

The manufacturer, the jobber and the contractor cannot at any time afford to break with this time honored ally and not weaken their sales positions on the firing lines of business.

Placing one's light on a candlestick, as the committee of architects pointed out, rather than under a bushel, is absolutely the prudent course of action, and the business man of foresight will not do otherwise in this great age of publicity.

"Why do I blow my own horn?" said a manufacturer who has long advertised his line of plumbing goods.

"Well, if I didn't, the trade wouldn't know I had anything to sell that was worth blowing about."

A very conservative and hardheaded manufacturer stated his reasons for not advertising during a meeting of men in his industry. He had never blown his own horn and never would. He quoted Emerson to bolster up his argument: "If a man preach a better sermon, write a better book, or build a better mouse trap than his neighbor, though he hide himself in the wilderness, the world will make a beaten path to his door."

"Emerson was right, and you're wrong," spoke up one of his friends who had been a national advertiser for years. "Emerson was noted for his belief in the power of publicity. Do not think that he was underestimating the value of advertising—or that the man with the better book or the superior mouse trap could actually play hide and go-seek with his product and expect results. No, Emerson really meant: 'Though he hide himself in the wilderness the world will make a beaten path to his door, if he advertises.' "

Ceasing to advertise is akin to veiling one's business from the all-beholding eye of the day. Continuing to advertise is to maintain one's place in the sun where it can be seen by all.

With the overwhelming evidence of the vitalizing power of advertising in every phase of progress, it is difficult to understand the mental processes of the man who persists at this time in hiding his light under the proverbial bushel.

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HEATING *a* BASE HOSPITAL

The Heating Installation at the Base Hospital at Camp Dodge, Iowa, Consisting of Seventy-One Buildings

By Presly M. O'Connell, Member A. S. H & V. E.*

THE Base Hospital at Camp Dodge, Des Moines, Iowa, has been installed to take care of soldiers who become ill or infirm during the training period. The original hospital layout consisted of 40 buildings as shown on plot plan, Fig. 1, in broken lines, and has a capacity of 500 beds. This capacity was found to be too small, and it was enlarged to a 2,000 bed capacity, consisting of a total of 71 buildings with plans for a future extension of 500 beds.

The buildings, composing the hospital are of frame construction, 160 ft. long by 24 ft. wide with 10 ft. ceiling. The outside walls are of 2x4 studdings, with shiplap siding over tar paper and a Beaver board finish on the inside. Each building constitutes a ward complete in itself, having a separate toilet and diet kitchen. There is also an enclosed corridor connecting all buildings.

The original hospital has a total of 70,400 sq. ft. of radiation, and the extension has a 75,000 sq. ft. radiation. The loss of radiation from covered and uncovered pipe is estimated at 20,000 sq. ft. High pressure steam is used in the laundry, main kitchen and all diet kitchens, and also for heating all hot water used in the hospital.

The original heating installation consisted of six 72 in. x 18 ft. horizontal return tubular boilers, which are all connected to a 10 in. flanged header. A steam pressure of 80 lb. was carried on this header and it was connected to a 10 lb. low pressure header through a reducing valve. Two 6-inch supply lines are carried underground from this header to the hospital.

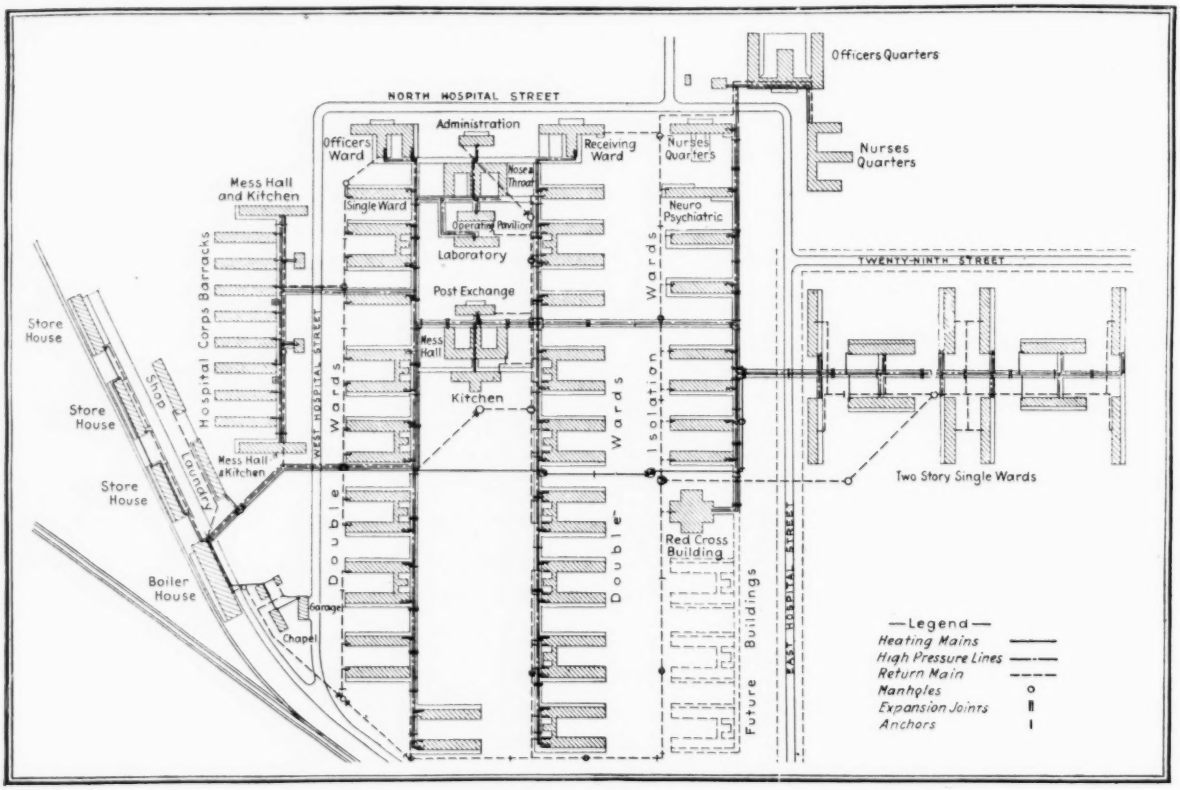


Fig. 1.—Heating Piping Layout of the Base Hospital at Camp Dodge, Iowa.

The new buildings required eight additional boilers, and it was necessary to reconstruct the header connections to take care of the expansion and so that any battery of boilers could be operated independent of the others. The reducing valve was removed as the additional load made it necessary to carry boiler pressure on all heating mains

*Paper presented at the Semi-Annual Meeting of the American Society of Heating and Ventilating Engineers, at Buffalo, N. Y., June 26-28, 1918.

to distributing points, also to install a new 8-inch steam main to supply the additional buildings.

At manhole D (see Fig. 1) all steam lines connect into a high pressure header which connects to an intermediate distributing header through a reducing valve. There are three 6-inch lines, carrying 30 lb. pressure, taken from this header which rise to the ceiling of the corridor. One 6-inch line supplies all buildings south of the manhole; the other two 6-inch lines are carried north, supplying the rest of the main group of buildings. A 6-inch main supplies all buildings of the west side; a 4-inch connection is taken from this line and run over-head to supply the barrack buildings. The other 6-inch line turns east at the corridor which connects the mess hall and post exchange to the east corridor, where a 6-inch connection goes south, and another 6-inch connection goes north to the receiving ward. The two 6-inch lines are cross connected at the corridor which connects to the operating pavilion. This 6-

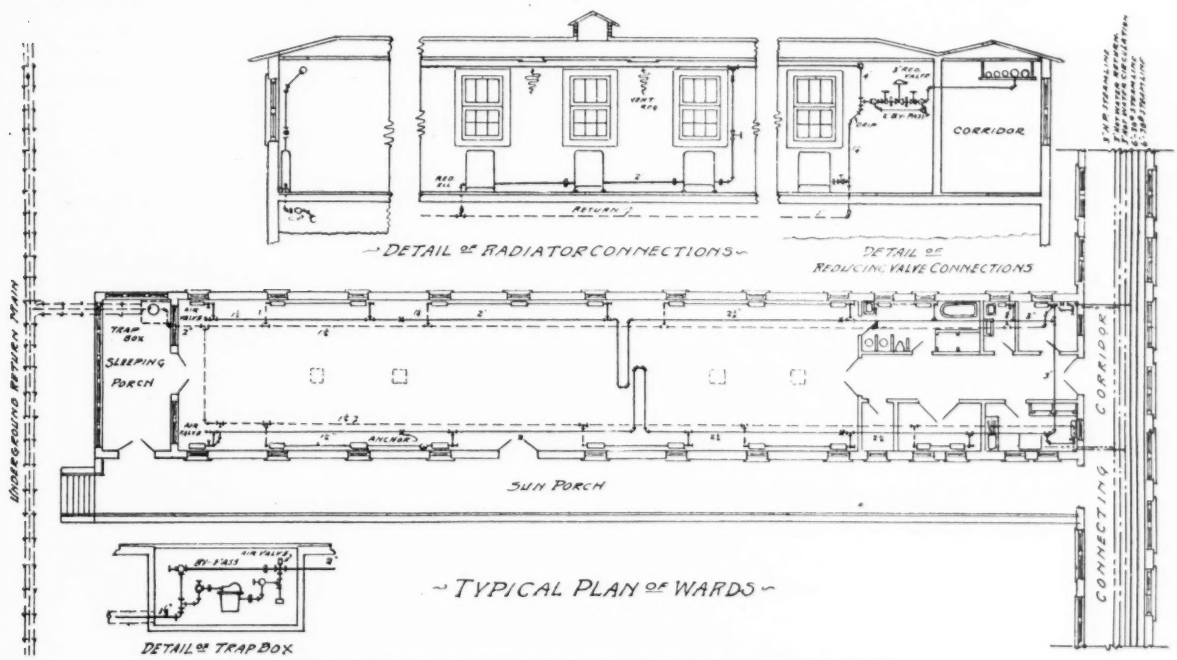


Fig. 2.—Details of Piping Connections to One of the Typical Wards.

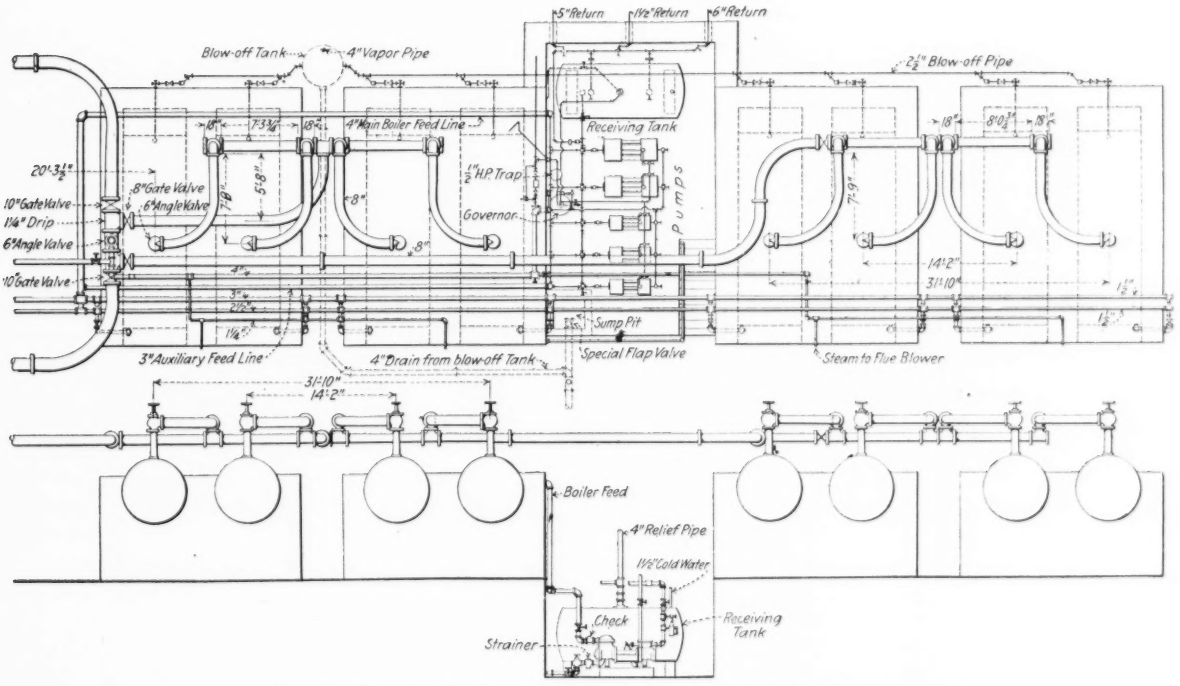


Fig. 3.—Plan of a Portion of the Boiler House, Showing Piping Layout.

inch line then continues east and then north to the old nurses quarters. A 4-inch connection is run underground to the officers quarters and the new nurses quarters.

The 8-inch high pressure line continues underground to manhole E-1 where it is reduced to 30 lb. and then raises to the corridor ceiling and connects with three 6-inch lines, one line running east to the two-story buildings, another line running north to the main corridor and connecting to the main supply of the nurses and officers quarters. Also a 6-inch line runs south for future buildings.

At manhole B-1 there is a connection taken from the 8-inch high pressure line, from which the pressure is reduced to 30 lb. and this connects to the 6-inch line on the east corridor. It was thought advisable to make these cross connections so that all buildings could be supplied through any high pressure line in case of emergency. Expansion joints on all steam lines are placed in manholes approximately 200 ft. apart.

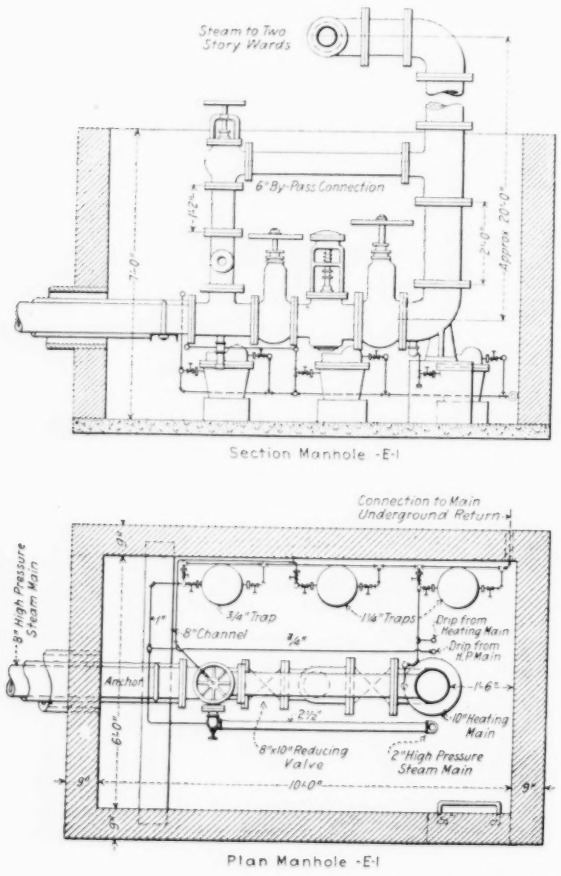


Fig. 4.—Details of the Piping Connections in One of the Typical Manholes.

Each building has a separate reducing valve for control of the local pressure. The steam main runs close to the ceiling and connections are taken out of bottom of main; the method of connecting radiators is shown in detail in Fig. 2. A drip connection is taken from all radiators and connected into a dry return which runs under the floor covered with air cell asbestos and one thickness of tar paper, wired on. There is a bucket type steam trap at the end of the return from each building where it connects into the main underground return.

A 3-inch high pressure line runs underground from the boiler house to the hospital and along the corridors, which supplies steam for all sterilizing and diet kitchens.

There is also a 3-inch hot water circulating system run underground from the boiler house to the hospital and then along the corridors, and a 1-inch connection is taken off for each ward in the main group of buildings. The officers quarters and the new nurses quarters and two-story wards have separate hot water tanks connected to the 3-inch high pressure line.

The return mains are run underground to the boiler house. Expansion joints are placed in manholes approximately 300 ft. apart. All condensation returns by gravity to a receiving tank in a pump pit and from there it is pumped direct into the boilers. There are two large pumps which are capable of feeding all the boilers, and two small pumps which are to be used in case of emergency. The discharges from all pumps are connected into a header from which a main boiler feed line and an auxiliary boiler feed line is taken and connected to each boiler separately as shown in Fig. 3.

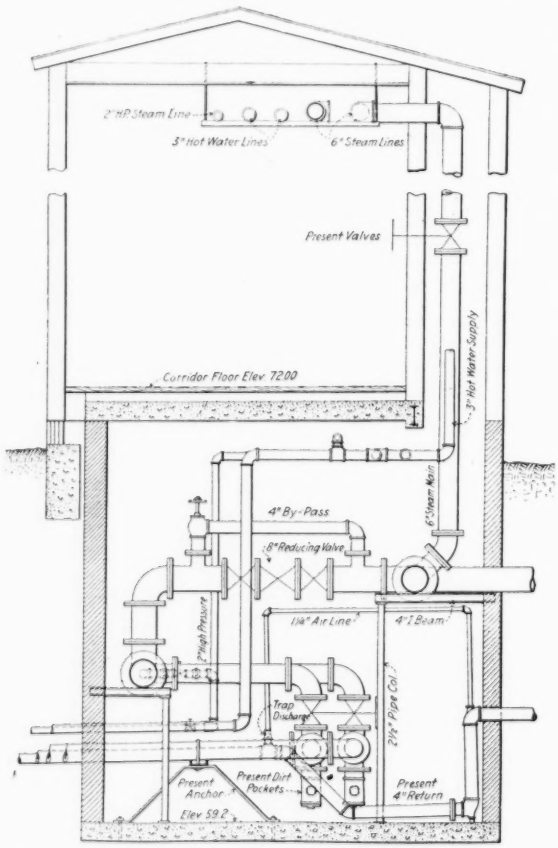


Fig. 5.—Details of Piping Connections from Manhole to Lines Carried Through Corridors.

All underground mains are run in tile conduits supported on iron rollers. The return mains are covered with 1-inch air cell covering. All steam lines are covered with 1½-inch thick magnesia and one thickness of tar paper securely wired on. The overhead mains in corridors are all covered with 1-inch thick magnesia covering, one inch of hair felt and one thickness of tar paper wired on. The corridors are not heated and for this reason it was necessary that all pipes be well covered.

(Continued on Page 37.)

LITTLE DROPS *of* WATER RUN *into* MONEY

Plumbing Contractors Can Save Money for Their Customers by Stopping Water Waste

By John H. Perry

IN these days of conservation of material matter such as food, natural resources, money, health, etc., we find that plumbers can do a little in this line also. They can help save water, and where water is sold by meter, they incidentally will thus save money for their customers.

The drops of water we frequently see falling in measured and steady periods from faucets, etc., constitute a preventable waste. They are not in accordance with our new American policy of conservation, and consequently should be stopped.

Anything that is going on in opposition to our present National plans should be stopped at once. Anything that aids and abets our National plans should be helped and encouraged by our trade.

Water waste is one of the things which should be stopped at once. I do not mean that we should use less water for cooking, drinking, washing, etc. Certainly not! That is not waste. That is judicious use. That is correct and proper, and must go on as usual.

But water which goes to waste without being used must be stopped. It must be saved for useful work. This is particularly so, if people pay for the water by meter, for then the waste is a double waste. The reservoirs lose the water, and the consumers lose the price of it.

I think I hear some reader say: "Pooh—that's carrying economy into stinginess. What difference can a dripping faucet make on a reservoir?"

Listen reader! The amount of water actually lost by leaky faucets, about valves, etc., is alarming. It is so great that certain water companies are doing their best to educate their consumers in the saving of water. These water companies are paid for all the water wasted through leaky faucets, etc. It's a great source of revenue to them. Yet they go to the expense of educating their customers in the way of saving water. When they do that they cut a big slice off their incomes.

This is evidence of a new spirit awakening in water corporations, the spirit of consideration for National interests first, and corporation interests next.

Fig. 1 is a reproduction from a postal card, which was mailed to each consumer of water in a certain city having a population of about 130,000 souls. This shows one side of the card. The other side has the following printed thereon: "The meter shows an excessive consumption of water. As we are compelled to charge for all water registered by the meter, this ought to have your immediate attention.

"This notice is not obligatory on our part, but indicates a desire to co-operate with you in stopping an apparently needless expense."

This water company is honest with its consumers or it would not take this action.

Examining the other side of the card as represented by Fig. 1, we see that a leak equivalent to a ¼-inch round opening at the pressure in that town will waste about one and one-quarter millions of gallons of water in 3 months, and will cost $367.76 at the prevailing rate. Such a leak would not run long in a residence without being stopped. But in a factory or other large works it may go unnoticed for a long time.

It is nothing unusual for a $\frac{3}{32}$ or $\frac{1}{16}$-inch leak to occur in a residence and continue running unnoticed for a long time. Such a leak will waste anywhere from 20,000 to 80,000 gallons of water in 3 months, and will cost the unfortunate consumer, anywhere from $6 to $24 in excess of his regular bill for water actually used. Why not save that money?

It would be far better for the consumer to save that money and buy an extra Liberty Bond with it or give it to the Red Cross, the Y. M. C. A. or K. of C. war work.

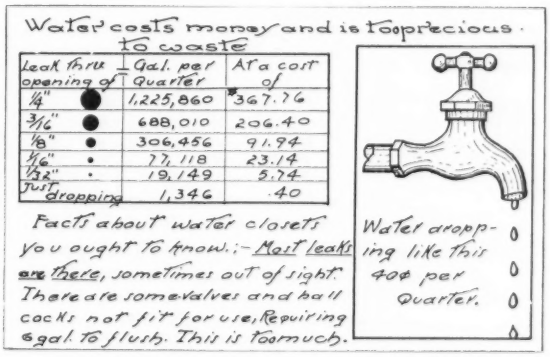

Water costs money and is too precious to waste
Leak thru opening of
Gal. per Quarter
At a cost of
¼" 1,225,860 $367.76
3/16" 688,010 206.40
⅛" 306,456 91.94
1/16" 77,118 23.14
1/32" 19,149 5.74
Just dropping 1,346 .40
Facts about water closets you ought to know:- Most leaks are there, sometimes out of sight. There are some valves and ball cocks not fit for use, Requiring 5 gal. to flush. This is too much.
Water dropping like this 40¢ per Quarter.

Fig. 1.

Look at the faucet dripping in Fig. 1. This sketch is printed on the poster. It is so impressive that it must have saved hundreds of thousands of gallons of water to the company, and thousands of dollars to the consumers.

Perhaps the note under the table in Fig. 1 is most suggestive to plumbing contractors. It tells a true story that plumbers know well.

The leaks at tank valves and ball cocks are hidden enemies. The public does not know they are there. It is up to the plumbers to find them and repair them every chance he gets.

Sometimes they can be located by sound. You can press your ear against the tank, after it is full and hear the water sizzling to waste.

Another plan is to dip out the water from closet bowl and see if it refills by leakage in through the closet jet.

During these days, when new work is scarce, we have plenty of time to ferret out such things, as we go from job to job.

Every house owner will be delighted to have his plumber draw his attention to such things, and they will order the repairs made at once.

Besides, as I have said before, it is in keeping with our national policy, and is right in line with the good work of the Trade Extension Committee.

QUESTIONS & ANSWERS

INFORMATION ABOUT INSTALLATION OF A BLOW-OFF TANK.

Editor "Domestic Engineering":—I have installed a horizontal tubular boiler to take the place of a large cast iron boiler, which I removed. The boiler is used for heating a large building and for furnishing steam to some cooking kettles, etc. The steam supply for the heating apparatus is reduced in pressure, the other fixtures are supplied at full boiler pressure which is about 80 pounds.

I am advised to install a blow-off tank. Will you please advise me why this is necessary and give a diagram showing how it should be installed and connected?

Pennsylvania. R. B. S.

We should first caution our correspondent to look into and conform to his city ordinance covering the blowing off of boilers, as practically all cities have ordinances governing this, and his city is doubtless no exception.

All boilers should be provided with some means for removing sediment precipiated on the bottom of the

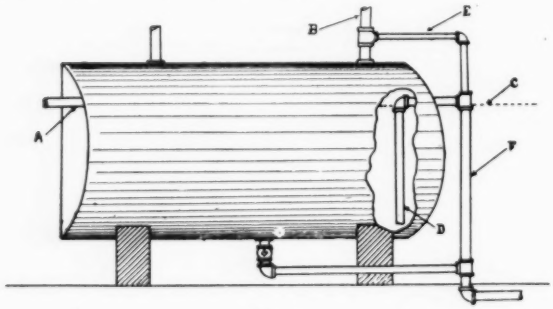


Fig. 1.

boiler without the necessity of drawing the fire and cooling the boiler. A pipe connection of suitable size is made to the bottom of the boiler through which this sediment can be blown out.

It is injurious to a sewer to blow the contents of a boiler into it directly, and therefore city ordinances require that an intermediate receptacle be provided and this is known as a cooling or blow-off tank. This should be of a size sufficient to hold about one-half the water contents of the boiler. While usually but one gauge of water is blown out at each cleaning it sometimes is required to increase this amount.

It is important that the tank be built strong enough to withstand a considerable pressure, as the temperature of the water in a steam boiler is in direct ratio to the pressure of steam, and when this temperature is lowered by releasing the water from pressure, more or less of it flashes into steam and exerts a considerable pressure in the tank.

A very good form of a blow-off tank and method of connecting it is shown by the sketch, Fig. 1. The water from the boiler enters the tank at one end at A, or about two-thirds or three-quarters the height of the tank, which is full of water to this level. This water from the boiler, being discharged on the surface of the water in the tank, does not immediately heat the tank water. The water, which flashes into steam, finds its way to the atmosphere through the vapor pipe, B, which should extend upward through the roof, and on the top of which should be placed an exhaust-head. The dotted line, C, is the level to which the tank is normally filled with cold water, but as water from the boiler flows into the tank it raises the water line causing a discharge to sewer through the siphon (D) of the waste pipe, which extends downward in the tank to within six inches of the bottom; thus the cooler water enters the sewer and does no damage. If the tank is of good size, the cooler water only enters the sewer, leaving the hot water from the boiler to cool in the tank. The vent connection, E, from the waste pipe, F, to the vapor pipe, B, prevents the formation of a vacuum and the possible siphonage of the water from the tank. It is usual to provide an emptying or drain pipe, which is connected to the bottom of the tank and provided with a steam cock.

Sometimes vertical tanks, of sufficient diameter and depth to hold the amount of water required are used, in which case the overflow and water seal pipes are installed practically as shown with the horizontal tank.

CAUSE OF RANGE BOILER COLLAPSING.

Editor "Domestic Engineering":—Fig. 1 shows a range boiler which has collapsed four times. The cold water supply is taken from fixtures upstairs. The hot water is

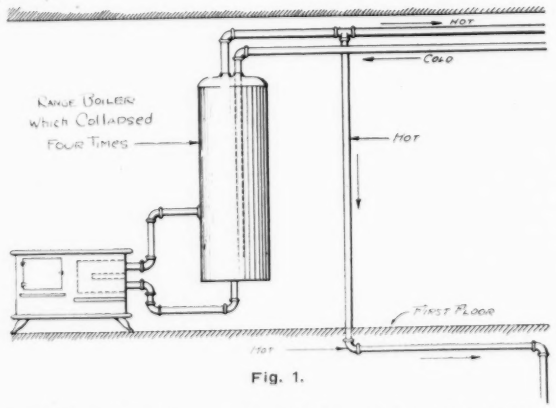


Fig. 1.

supplied to fixtures upstairs and downstairs. The bottom of boiler is about level with the top of the range.

Can you tell me why this boiler collapses?

Methuen, Mass. W. S.

There is only one thing which will cause this boiler

to collapse. That is the application or existence of a force to the outside of boiler shell, said force being greater than any opposing force acting against the inner surface of the shell.

That is the fundamental principle. This is how it applies in practice. When the boiler is empty, the pressure of the atmosphere (14.7 pounds per square inch) is exerted on both inside and outside of boiler shell with equal force, as shown at A in Fig. 2. Therefore, under this condition there is no tendency either to burst or collapse the shell.

When the boiler is filled with water, and the full water pressure is turned on, say 50 pounds per square inch, then there is an excess of internal pressure as at B in

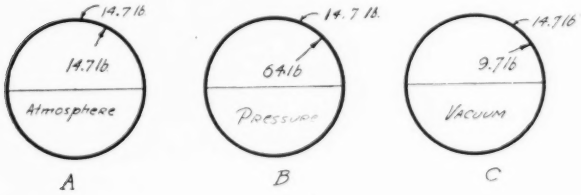


Fig. 2.

Fig. 2, and the tendency is to burst the shell. This is the condition which exists when the plumbing is in service.

But should a condition arise, in which the pressure within the boiler will become lower than that of the atmosphere, then the tendency is to collapse the shell because of the greater external pressure, or the "vacuum" within the boiler, as plumbers call it.

That vacuum, or more properly speaking, "partial vacuum," can be created this way. Suppose that the cold water supply to the boiler is shut off by an ordinary stop cock over boiler, said stop cock having no waste hole in it. This hermetically seals the range boiler and all the hot water piping.

Now, suppose a hot water faucet in basement, say 10 or 12 feet lower than middle of boiler, is opened, but all hot water faucets on floors above remain closed, then the weight of water dragging down in the hot water pipe to basement faucet produces a pressure in boiler less than that of the atmosphere. It will be about 5 pounds per square inch less, as shown at C in Fig. 2. This then tends to collapse the shell.

Whether the shell will collapse or not with this partial vacuum, will depend upon the strength of the shell, that is, its thickness and shape. You know that a cylindrical shell can stand more pressure inside than outside. You can see that when you squeeze your tooth paste out of a tin foil tube. A very slight pressure is required to collapse the tube, while a much greater internal pressure is required to burst it. It's the same way with a range boiler, particularly a copper boiler.

Galvanized iron range boilers are thick enough to successfully resist collapse by vacuum pressure on any job. Therefore they are not reinforced inside against collapse. But copper boilers are different. They are made of thin metal. It is strong enough to withstand the internal water pressure, but not strong enough to resist a vacuum pressure. Therefore, copper boiler manufacturers make most of their boilers with internal reinforcements which hold the cylinder in position, should it be subject to a vacuum pressure at any time.

W. S. does not say whether his boiler is iron or copper. But we believe it must be copper. Furthermore, we believe it is either too weakly reinforced or has no internal reinforcement at all. Good copper boilers are built so that they will not collapse.

A simple remedy W. S. may apply, is to remove the plain stops which shut off the boiler, and replace them with stop and waste cocks. This lets the air get into the boiler, and so prevents the partial vacuum, which we are sure has given him all the trouble.

SIZE OF VITRIFIED PIPE FOR SMALL RESIDENCE SEPTIC TANKS.

Editor "Domestic Engineering":—We would like an opinion as to whether a 24-inch crock pipe would be sufficient to act as a septic tank for an ordinary house of six or eight rooms.

Cleveland, O. D. H.

We believe there are many places in which 24-inch diameter earthenware pipes have been used in the construction of septic tanks for buildings of the size you specify. And we understand they have given fairly good results.

The success depends in a large measure on the degree of sedimentation required, and on the volume and quality of the raw sewage.

If there is an expectation that the volume of sewage, to be treated, will be larger than that discharged from ordinary small houses with small families; if for instance, the family is a large one and the water supply is abundant, we believe that 30-inch diameter pipes will be better as suggested by H. P. Boynton in his article on page 163 of May 4th (1918) issue of "Domestic Engineering."

TAKING KINKS OUT OF LEAD PIPE.

Editor "Domestic Engineering":—Will you please tell me the best way to take kinks out of lead waste pipe from 1¼-inch to 4-inch diameter?

Sometimes I find that our lead waste pipe gets flattened and kinked by rough usage, etc., and it is necessary at times to cut out the bad spots, and thereby waste pipe. Sometimes the cutting out of a kinked portion means that we have to wipe an extra joint to join the parts together again, where the kink was cut out.

I have my own way of doing it, but would like to know yours.

Pennsylvania. Practicus.

Plumbers, who are considered first class lead workers, generally take out the kinks by the use of drift plugs and balls or bobbins. The lead wast pipe, be it 1½-inch or

Fig. 1.

4-inch, is first stretched out as straight as possible on the floor.

Then a small drift plug, something like Fig. 1, is driven through the pipe, point first, with a long rod. The plug is greased so it will slide through the kinked portion and push the flattened sides apart, as in Fig. 2, which shows the kink in cross section. Back of this entering plug is another but larger one, which opens up the kink a little more. Back of this are more plugs, balls or bobbins, each larger than the one in front of it, and each well greased,

the last and largest plug being the full diameter of the pipe.

These greased wooden plugs are driven through the pipe by a rod or piece of pipe, as shown in Fig. 3. They are driven clear through by repeated blows from the rod.

Frequently the plumber has to "dress out" the kinks with his dresser, as the balls are worked through them. This must be done with due regard for maintaining the thickness of the metal. If the dresser is not applied at the

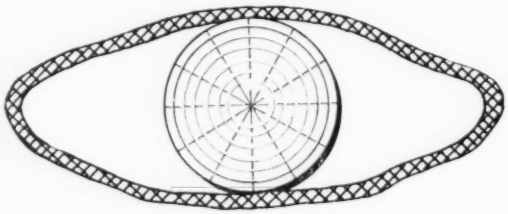


Fig. 2.

right time and applied in a scientific manner it is quite possible that the plugs may be driven through the side of the kink, causing the pipe to leak.

The process, however, is quite simple, if the plumber knows how to strike with the dresser so as to drive the lead in the right direction, and so help keep the plugs going true. A good plumber will do this every time. An inexperienced one may stretch and weaken the lead very ma-

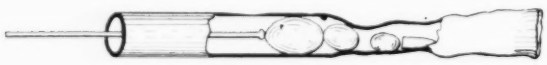


Fig. 3.

terially by an improper application of either the dresser, the plugs or the driving rod.

Success depends a great deal on greasing the plugs well.

We don't know how they take the kinks out of lead pipes in Germany just now, since grease is so scarce there, but here in America there is lots of grease, so don't neglect to use it on the plugs and bobbins.

HOW FAR BEHIND THE BOYS ARE YOU?

One of Pershing's men, returned from France, was speaking:

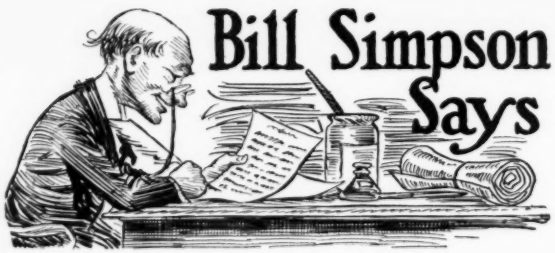
"When I left for home," he said, "the boys over there were feeling pretty blue, because they thought that you here in America were not backing them up as you ought. We had a pretty bitter winter over there. The weather was the coldest France has known in years. Many of us were without proper food and clothing. Some were even without shoes. None of us were complaining, though, but the feeling that when we were doing so much for you, you were not doing everything in your power to back us up sometimes bit in pretty hard.

"We felt like the little Irishman felt in a Y. M. C. A. hut one evening. A bunch of us had gathered there to listen to a speaker from America. During the course of his lecture he said:

"'We in America are behind you boys to a man.'

"Then my little Irish friend got up. 'Yes,' he said, 'you're all behind us, all right, a h—— of a ways behind—4,000 miles.'"

Are you that far behind "the boys?" If you are, move up closer. Put all your energy into this war saving campaign. Save to the utmost of your ability and put your savings into War Savings Stamps, and get everyone else to do the same.



(With Apologies to K. C. B.)

Yesterday I attended a Sale
* * *
of Thorough-Bred Cattle
* * *
Up at A. W. Green's farm.
* * *
Green made a "rep" for himself
* * *
Three years ago by
* * *
Paying $20,000 for a
* * *
Blue-blood Bull Calf.
* * *
His friends shook their heads
* * *
And agreed that "It's too bad—
* * *
For Green was such a nice fellow."
* * *
But, Green went about his business
* * *
Of Raising pedigreed cattle—and
* * *
ADVERTISING the fact that he
* * *
Was Doing so. He didn't let
* * *
Anyone forget that he had
* * *
Paid $20,000 for the Bull Calf—
* * *
Even if they did judge him crazy.
* * *
BUT, as I said before—
* * *
I attended his first Annual Sale
* * *
Yesterday—and saw his three
* * *
$1,000-a-day Auctioneers
* * *
Sell $175,000 worth of
* * *
Pedigreed cows and bulls—
* * *
All of which he had raised during
* * *
The past two years. And, the
* * *
Grandson of this $20,000 Bull
* * *
Sold for $25,000.
* * *
Same old story—isn't it?
* * *
Quality—Advertising—Work—Success.
* * *
The formula is simple and sure.
* * *
Why not apply it to your work.
* * *
Make every job you do a
* * *
QUALITY job. It pays—
* * *
Asks A. W. Green if it doesn't.

Become a stockholder in the United States—buy War Savings Stamps.

LEGAL QUESTIONNAIRE

*Is Landlord Liable for Accident Due to Defect in Steps in Back Yard? Is Repair Shop or Owner of Auto Truck Liable for Damage to Car on Joy Ride, When Former Delivered It to Unauthorized Employe**

By "The Judge"

LANDLORD NOT LIABLE FOR ACCIDENT DUE TO DEFECT IN STEPS IN BACK YARD UNDER CERTAIN CIRCUMSTANCES.

Editor "Domestic Engineering":—I own the premises, of which my shop is a part. Several months ago I let the apartment on the second floor, over my shop, to a man who looked them over very carefully, before he hired them. Leading to the back yard from the ground floor is a flight of steps which are used by the tenants of the second floor apartment exclusively. A few days ago the wife of the tenant was going down these steps when she fell. They claim that the steps fell away from the wall of the building when she stepped upon them. I was not in my shop at the time of the accident, but when I did arrive, the steps were some distance from the building.

I don't say that I won't make some sort of a settlement, if the man is reasonable, but I do want to know just how far they can go as a matter of law in the way of collecting damages from me. Hampden.

Answer:—Unless other facts exist, which would materially change the rights of the parties, you are under no liability for the wife's fall as a matter of law.

It is fairly well settled in your state that where premises are let to a tenant as an entirety, even in the cases where there is no written lease, and there is no agreement to keep in repair on the part of the landlord, the tenant takes the premises as he finds them, and cannot sue the landlord successfully for injuries due to defects in stairways, ceilings, etc. There are some exceptions to this general rule, which I shall try to touch upon. In the first place, the landlord is liable in an action of tort or liable to have his lease broken, in cases where hidden dangers exist, of which he has notice. For instance, in an old case, a previous tenant had fitted the cellar of the house with a spring gun for use against some enemy of his. The landlord knew of this, but forgot about it and did not tell the next tenant. He was held liable for damages to the incoming tenant from this spring gun. Other cases, for which the landlord is liable, include those where some obnoxious disease germs have been left in the house, such as smallpox, and the landlord knew of it and did nothing about it or notify the new tenant.

In your case, even if you knew of the defect in the steps, and it existed when the tenant moved in, you would not be held liable, unless it could be shown that you intentionally concealed the defect, and it was such a defect that the tenant could not have discovered it, if he had made an examination. One of the courts on this subject has said:

"No action lies by a tenant against a landlord on account of the condition of the premises hired. . . . This is the general rule of *Caveat Emptor*. In the absence of any warranty, express or implied, the buyer takes the risk of quality himself. This rule does not apply to cases of fraud. It does not apply to the sale or delivery of dangerous or noxious articles. This principle of law, relating to dangerous or noxious articles, has been applied to the letting of tenements."

Speaking of traps and spring guns the court said in this same case: "If the landlord knew of such, it might be held to be his duty to give information to the tenant. Such traps or contrivances are not merely a want of repair; they are, in a sense, active agencies of mischief, which no tenant would expect to find in even a decayed and ruinous tenement."

Your tenant not having required a warranty of you and having had full opportunity to examine the apartment, it was his fault, if he did not see what was apparent, if it was in a dangerous condition at the time he hired it. If it became out of repair, after he went in, of course he cannot blame you in the absence of any agreement on your part to keep it in repair.

Buildings are let in all sorts of condition, and the law is unusually strict in exempting landlords from liability for injuries arising from defects, where there has been no warranty and no actual deceit. Tenants often make slight changes in the premises for their conveniences, the effect of which the landlord cannot know without examination. If a succeeding tenant is permitted to examine the premises, he is bound by what he finds or should have found to be defective.

The foregoing statements are based upon my assumption that the steps in question were not for use of any other tenant, but were exclusively for the use of the tenant, whose wife was injured. If the accident had happened in a common hallway, the liability on your part would be very different. Where there is a defect in a common hallway, the landlord is liable for any negligence in not having it fixed, provided it could be shown that he knew or should have known of the defect and did not have it fixed.

There is also another rule of law governing your case. If the defect had been called to your attention, with a request that it be removed, and you had undertaken to fix it, and had not had it done properly, you might be held liable on the ground of your negligence in the man-

*Every Effort is made to the End that these Answers may be authoritative. However, we cannot assume any Responsibility because of the very Nature of the Service, which is rendered without a personal Interview.—Editor.

ner of repairing it. But even if you had had the defect called to your attention, but had neglected to do anything about it, you would not be liable, on the facts as presented.

In the eyes of the law the tenant's wife, or a guest in his house, stands in the same shoes as the tenant, as far as any rights against the landlord is concerned.

REPAIR SHOP DELIVERING TRUCK TO UNAUTHORIZED EMPLOYE IS LIABLE, IF DAMAGE IS DONE TO CAR ON JOY RIDE.

Editor "Domestic Engineering":—As my auto truck needed repairs, last January, and as we had had some severe snow storms, which prevented the continual use of the truck, I took it to the repair shop to be looked over and an estimate given. I thought the price named was too high for what had to be done, and no repair agreement was ever entered into. As the weather continued to be such as to make the use of the truck almost impossible, I did not do anything about the matter for some time. In February, one of my men, who usually drove the truck, got my son to give him an order for the car on the repair shop, took the truck out on his own hook one night, and it was badly smashed up. The repair shop and I have been dickering back and forth about the liability for the damage done. What are my rights against the repair shop? F. D. H.

Answer:—Such cases as you have presented are of a kind, which make a definite answer of uncertain value without a thorough rehearsal of all facts, including conversations and the authority of the various parties to do as they did. However, I believe that I can give you the law side of the matter in a general way, which will inform you what the situation holds for you.

Your principal right, if the facts prove that you have any against the repair shop, is a right to sue for the conversion of the truck. Conversion, or as it is sometimes called, trover and conversion, is defined as an unauthorized assumption and exercise of the right of ownership over goods or personal chattels belonging to another, to the alteration of their condition or the exclusion of the owner's rights. For instance, it has been held in some of the cases that, if you hire a horse and wagon to drive to one city and as a matter of fact drive to another city, the owner can sue you for conversion of his property, under proper facts.

The question whether the person, who has converted your goods did so with an intent to convert them, as long as he intended to do what he did do, is immaterial. So the case which you have stated comes down to the question whether the repair shop had an express or at least an implied authorization for delivery to your employe.

The cases say that a delivery to an unauthorized person is as much a conversion as would be the sale of the property, or an appropriation of it to the bailee's own use. In such cases neither a sincere and apparently well-founded belief that what was done was right, nor the exercise of any degree of care, will excuse the unauthorized delivery.

The repair shop will undoubtedly try to prove that your son had authority from you to write the order on the repair shop. It will be a question of fact whether your son did not have authority to give the order, and this question will have to be decided by the court or jury, if the case gets that far. It may be that the repair people will also try to prove that it is a custom in their business to deliver the car to such persons, as are known to be in the truck owner's employment. Where such a situation appears, it must be shown that both parties knew of it and contracted accordingly. Surely, from the fact that the weather was not fit for driving, and that your car had been in the shop some time pending your negotiations for repairs, it could be argued that the repair people should have been on their guard, and that the situation was different from what it would have been, if the truck was being used every day, and your employe had simply gone to the shop to get it for the day. The authority of your employe to go and get the truck would not be presumed as a matter of law, but would have to be decided by the court or jury.

The court would probably rule as a matter of law that the bare relationship between yourself and your son was not such as to make him, because of that fact, your agent with power to give the order which he did.

Under the facts as you present them, I am of the opinion that you have a good right against the repair shop for the value of the car at the time of the conversion.

CONVEYING WATER TO THE BRITISH, FRENCH AND AMERICAN TROOPS IN FLANDERS.

While the great battle is going on in Flanders and the German hordes are being mowed down and checked, facilities for ministering to the needs of our allies and our own troops are in constant activity behind the firing lines.

In the accompanying picture, British, French and American fighters are speeding up the transportation of drinking water to the men in the trenches up ahead. A

Bringing Drinking Water to the Men in the Trenches.

tank wagon is loaded with water and it makes its rounds to within walking distance of the front lines from whence it is carried to the men. The water is often pumped from wells constructed by the engineering corps of the army. This method has proven its worth and is being followed out in many camps on the western front.

Ontario, Oregon,—H. L. Poorman will furnish and install the plumbing and heating systems in the new grade school building at Filer, Idaho. The contract amounts to $6,800.

Remember! the men in our army and navy do not expect luxuries. Should we at home expect them? Buy necessities and War Savings Stamps.

"DIRECT ADVERTISING"

A Tool for the Plumber and Steamfitter

By Irwin Spear

SUPPOSE you think of advertising as one of your tools.—You know that a pipe wrench is just about indispensable in your business. But there are times when you need a hammer and other times when a pair of pliers come in mighty handy. You can't do everything with a pipe wrench, no matter how good a wrench it is.

There are certain things that simply must be done with the hammer or the pliers or the saw or the chisel or whatever else it may happen to be.

Well, advertising is like that, too. Newspaper advertising is the pipe wrench of business. It is a wonderful tool and you can't well afford to be without it. But it isn't a whole tool chest, by a long way.

One of the tools you will find of greatest usefulness next to newspaper advertising is direct advertising.

What is meant by direct advertising? Any form of advertising that is sent through the mail direct to the individual, as letters, post-cards, folders, circulars, is direct advertising.

To what tool may we liken direct advertising? Perhaps in its operation it is most like the hammer, for here it is the repeated, well-aimed blows that tell.

How may the plumber strike these direct advertising blows most effectively? First of all, a letter or follow-up campaign should be consistent. If you are going to utilize the hammer of direct advertising do not expect one tap to accomplish wonders. A single piece of direct literature has frequently brought astonishing results, but it is the consistent, well-rounded, and persistent use of the mails that brings the real success.

The advertising manager of one of the largest wholesale dry goods houses in the world tells an interesting incident illustrating the cumulative effect of follow-up. One morning a large order came in from a cross roads village in the West. The concern was a new one to the house and the advertising manager was interested to know how so large an order happened to come from a new customer in such a small place. He consulted his records and found the new customer had already received twenty-three separate and distinct pieces of mailing matter before the first order was sent.

The hammer at last struck the telling blow.

To the plumber who desires to utilize the selling force of direct advertising to build business, the first and one of the most important considerations is a good list of names. Your direct selling chain can be no stronger than this link. If your names are not live, if they contain much "deadwood," you can't expect to get results any more than a flesh and blood salesman could expect to get a rise out of a lot of deaf mutes. You must be sure that your prospect receives your message.

It is wise to go over a list frequently and bring it up to date. People move, or cease to become possible purchasers, and to continue such circularizing is a waste of money, pure and simple.

Perhaps more money is thrown away in mailing to out-of-date lists than through any other single channel in advertising.

When your list has been carefully weeded, the next important consideration is what will you say to these potential buyers.

Good personal letters in series are one of the most successful methods of direct advertising. The copy should be terse, pointed, meaty and full of punch. Writing a good letter is an art. It takes many professional letter writers years to acquire the knack of turning a telling phrase and putting a world of meaning in a few words.

Cleverness is not desirable in writing letters that sell. The important thing is to convince and to secure this result in fewest possible words.

A number of years ago letters used to be two and three pages long. Now most letters are confined to a few short paragraphs.

A plumber and steamfitter may well use letters at this season of the year to call attention to installations of heating equipment prior to cold weather and while he and his men are less busy than they are likely to be later.

Just now the plumber and steamfitter has an unusual opportunity for selling talk in fuel conservation and the necessity of economy. Letters with this as the central theme are certain to strike a responsive chord in the recipient.

Most manufacturers are glad to co-operate in supplying effective direct advertising to plumbers and steamfitters handling their lines. Write these manufacturers for copy and plans for a direct campaign. Many of them will circularize your list at their own expense, including cost of stationery and postage. Others will charge you for the postage but supply the stationery.

It is well, however, to do your own circularizing (in addition to what you can get manufacturers to do for you), for the manufacturer is interested primarily of course in boosting his own line while you must sell yourself and not any one line or brand. Sell your experience, your ability to serve, the reliability of your work. Then you will be building your own business first and last.

Mailing cards may be made very effective by attractive illustrations and typography. A few mailing cards interspersed with the letter series will secure cumulative effect and give variety and they are less expensive to mail than letters.

All letters should be sent first class, that is, sealed, and unless your list is large they should be individually typed. You want your prospect to think this letter was written specially to and for him and not a machine-made advertisement which will be sent to hundreds of others.

There is an automatic typewriter on the market today which turns out individually typed letters by the hundred at a trifle of cost compared to the cost of hand typing.

If you plan to do extensive circularizing it will pay you to beg, buy or borrow one of these machines.

You may give a letter the earmarks of being personally written by adding a P. S. of some sort and very frequently this increases the results.

Direct follow up should produce a tangible, traceable response. If it does not, it is not as effective as it should be. Anywhere from 2 per cent to 10 per cent replies is a fair percentage of results. A 20 per cent response is unusually good.

Every piece of direct literature should have some "hook" designed to bring a reply. This may take the form of a post card or some special offer good only in connection with the letter or an order blank. But some "come back" should be requested, except in cases where the letters are mere announcements or intended only to build good will. Such work, however, can be done more economically through the newspaper.

Direct advertising is more expensive, generally speaking, than newspaper advertising. On the other hand it has the advantage of getting to the person to whom it is directed. You cannot be sure of reaching any particular individual through newspaper advertising. You can only be sure of reaching a certain group of readers represented by the circulation of the paper.

There is bound to be some waste circulation in newspaper advertising. There need never be any waste circulation in direct advertising. Therefore, while in a sense, direct advertising costs more per reader, it may really cost less considering that each reader is, or should be, a live prospect.

Plumbers and steamfitters should use some direct advertising just as they should use some newspaper advertising.

You can't make one tool fit all requirements. All successful advertisers use advertising in many forms. They have a variety of tools.

Start a direct advertising drive for immediate installation and repair business and start it now.

SUGGESTED STANDARD OF FLOOR AREAS FOR BATHROOMS.

That the size of bathrooms should depend upon an allotment of space for individual fixtures rather than upon any arbitrary statement as to the number of square feet, etc., is the contention of Charles B. Ball, chief inspector of the Bureau of Sanitation, Chicago.

In an address at a recent meeting of building inspectors in Chicago, he said in discussing the subject:

"I invite your attention to a logical standard, not heretofore proposed, for determining the sizes of toilet and bathrooms, which standards depend upon a minimum allotment of floor space for each of the several fixtures, as follows:

"For a water closet—12 square feet.

"For a lavatory—12 square feet.

"For a bathtub—30 square feet.

"This allotment will give a minimum requirement for three fixtures of 12 plus 12 plus 30, which equals 54 square feet. The three fixtures, if arranged in a square room, would require each side of the room to be 7 feet, 4 inches. If the fixtures be placed in a row, the length would be 11 feet, and the width 4 feet 11 inches.

"Perhaps the trial of these factors in the various arrangements may make necessary some modification in them, but there is no question that the adoption of the method is worth considering. So far as I am aware, although a limitation of 60 or 70 feet has been proposed for bathrooms, no allotment of space depending upon the number of fixtures to be located in the room has heretofore been suggested. Many ordinances define the minimum width of a water closet compartment as 3 feet or 2½ feet even."

During the meeting, Mr. Ball presented his definition of a room fit for the abode of human beings. He said: "It must have an adequate floor area. The height from floor to ceiling must be sufficient. Opportunity for light and ventilation must be provided by one or more windows. The windows must open upon an outside space large enough to afford the necessary light and air circulation. The room must be kept clean and the air within it reasonably pure."

VOCATIONAL EDUCATION FOR DISABLED SOLDIERS.

The Federal Board for Vocational Education has just issued the "Evolution of National Systems of Vocational Education for Disabled Soldiers," being Bulletin No. 15 of the series of this Board, of which Dr. C. A. Prosser is the director.

Coming at this particular time, when the problem of what will be done with our own wounded and disabled men is of growing interest to the country generally, the bulletin has the considerable value of timeliness, in addition to its intrinsic worth as the only complete exposition of what other nations are doing for their own, who are suffering disabilities as one of the fortunes of war.

There is, additionally, the value of being as absolutely authoritative publication, with material drawn from official sources abroad, and issued by The Federal Board for Vocational Education, which, by unanimous vote of the Congress, has been charged with the high and great responsibility of re-educating and rehabilitating vocational usefulness, the disabled men of the United States land and naval forces. The Federal Board has been engaged upon the study of war rehabilitation work since August 1917, and was the first of the governmental agencies to move for the re-education of our war-wounded and crippled defenders.

The bulletin is a volume of 320 pages, illustrated with many photographs showing progress made in other countries in refitting men to take up again the battle of civil existence. It shows how science and the wonders of specialized re-education are able to neutralize what would otherwise be serious handicaps that would place the subject thereof in the category of human junk.

It is a most inspiring message of hope and confidence to every man who is in the armed forces, and those subject to call, and the families and relatives of all of these men. It assuredly dispels any fear that a man may have of becoming a wounded or decrepit burden, either upon society, the state or his relatives. Mere remnants of men are shown who have been turned into useful wage earning, self supporting and self respecting citizens who supplement their pensions with well paid labor, and in many instances have larger revenues than before being injured.

The volume deals with the subject of rehabilitation generally its principles, the attitude of the public toward the disabled men, and the outlook and viewpoint of the men themselves. It then takes up the various countries—France, Belgium, Great Britain, Italy, Germany, Austria-Hungary, Canada and other British dominions.

Copies of this interesting and valuable document—the first the United States Government has issued upon this absorbing subject, may be had without cost, upon application to the Federal Board for Vocational Education. Ouray Building, Washington, D. C.

BRINGING THEM BACK

The Story of the Plumbing Contractor Who Desired to Get His Old Customers Back

By William Robert Marshall

MR. PETER FORTENNAC is not a friend of mine,—at least, he has never gone out of his way to be friendly, he is and has been for several years simply an acquaintance. I met Mr. Fortennac several years ago, in the regular course of business. I was calling on all the plumbers in town—to see them in their own environs—to grasp a mental picture of them at home, so I would be in a position later on to better "size" them up as possible customers for a new firm.

Mr. Fortennac received me rather coldly and showed no great elation over my enthusiasm in presenting my card as Manager of Sales for a new jobbing house in his beautiful city. In fact, he rather discouraged me or attempted to do so by telling me, that there were too many jobbing houses in town at the present time and that the plumbing business would be better off, if half of them were in the junk business.

He further intimated that he didn't particularly love my new boss, and all in all my visit to him was "seed cast upon desert soil."

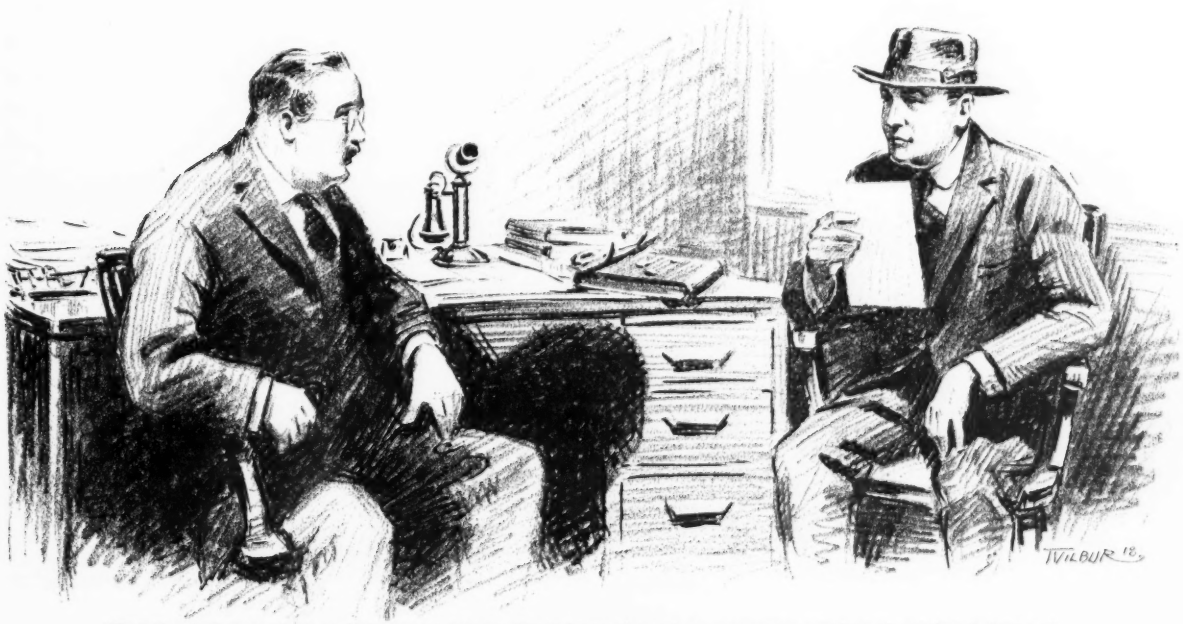
No, Peter Fortennac was not a friend of mine. I have written the above simply to show you why I was surprised dumb to have him call me by phone the other day, asking if I could come out and see him. I made an appointment with him for the following day and kept it.

Before writing further it appears to me that it would be advisable to tell you something about Peter Fortennac.

I learned from people in a position to know that he had come to California some twenty years ago with considerable money, but without much knowledge of the plumbing business. He had opened a shop down town—a rather unpretentious sort of an affair—and had immediately started after "big game". He made a success of the plumbing business from the start and had during the following years accumulated a very comfortable fortune, which had been invested with unusually good foresight. At the present writing he lives in a home—bought many years ago in what was then considered out in the country—which today is in the best residential section of the city and is often pointed out by the more facetious as a monument of the enormous profits in the plumbing business.

He drives a very modern—of the best make—automobile. Has a son in college and a wife and daughter in "society."

I do not know Mr. Fortennac, but he always impressed me as a man of very reticent character, astute, very su-



"But the fact was—just as it is in your case—his ledgers showed an enormous number of red ink balances."

perior and of critical arrogance. With this rather poor attempt to give you a mind picture of Mr. Fortennac, I will proceed to state again that I made an appointment with him with considerable conjecture as to his purpose.

* * *

"Mr. Marshall," he began, as soon as we were seated in his office, "I understand you have left the plumbing business and are now posing as a doctor of sick business."

I mentally resented the word "posing." "I have joined a firm of advertising men as a publicity director," I advised him.

"And just what is a publicity director?" he asked me rather brusquely.

"Directing the policy of telling the public what they ought to know about your business, or advising you how and what you should do to correct any misunderstanding about your business, or to suggest ways to increase it," I answered him.

"I presumed it was something of that nature," he assured me. I awaited his further advance.

"I was going over my ledger a few days ago and was rather startled to find that I have so many accounts with a red ink balance line beneath them. You know, I presume, Mr. Marshall, a lot of balanced accounts in your ledger means a lot of "dead" accounts—and when the date just above the red line is one, two, three, four, five, six and seven years old, it can mean only one thing—stagnation—retrogradation and lack of—will we say—good business acumen."

"To my way of thinking," he continued, "an old customer is worth two new ones; yet everything you read, every propostion that is offered to you is about—getting new business—new customers. Now what I want to know is—how to open up some of those dead accounts in my ledger."

I nodded again.

"A new thought?" he shot at me.

"No!" I replied, as I arose and moved over towards a small table upon which I had left my black leather case. "It is not a 'new thought'—it is the big up-to-the-minute question with most merchants, but I am rather surprised that a man in the plumbing business would be interested in the problem."

He grunted as he watched me open my bag in search of a sheet of paper.

"Here is a copy of a report I read in a magazine only the day before yesterday; I didn't think I would have an occasion to refer to it so soon," I said to him as I sat down again.

"Here is a merchant," I began, "who says that his advertising man could get people into his store all right and that his business was showing a good increase every year, but the fact was—just as it is in your case—his ledgers showed an enormous number of red ink balances, running back as far as eight years, and he believed that that was wrong, so he called in an expert and put the proposition up to him."

Mr. Fortennac eyed me, I thought, rather suspiciously.

"And here is what he did," I read from my memorandum.

"He took 160 names from that ledger (of customers?), who hadn't made a purchase, according to his books, for eight years. He prepared three letters and sent them out on a ten day period. The letters cost the merchant $55—and the result—in two days, five old customers came back, and at the end of the thirty days he had sold $8,889 worth of merchandise to people on the 160-name list.

"He next took 250 names of people, who had made no purchase in his store for a period of over two years, and prepared four letters and sent them out on a ten day period. The letters cost $125, and the result—he received 100 replies and the net sales were $879.

"Remember," I warned him, "this is not fiction. It is an actual fact."

"How much will it cost me?" he began.

"One hundred dollars and the actual expense of stationery and postage," I quickly answered.

"You have a job," he answered just as abruptly. "I'll have my bookkeeper make up a list at once."

Moral:—Take a peep at your ledger. If the "dead red line" is too prominent, employ a professional letter writer and tell him to get you acquainted again with your old customers. It pays—by dividends.

Hugh J. Smiley.

Hugh J. Smiley, a plumbing contractor of Oak Park, Sacramento, Cal., died last week of intestinal trouble at a hospital in that city. Mr. Smiley came from Australia in 1886 and had been connected with the plumbing trade for many years. He was a member of the Sacramento Master Plumbers' Association. His wife and a son survive him.

William Robertson.

William Robertson, a well-known master plumber of Grand Rapids, Mich., lost his life in a street car accident in that city last week, a few days after he had sold his plumbing business and before he completed the transfer. Mr. Robertson was born in Scotland 72 years ago and came to this country 45 years ago. He had been connected with the plumbing trade 57 years, the last 30 years as a master plumber in Grand Rapids. He was a highly esteemed member of the Master Plumbers' Association of Grand Rapids. His wife and two sons survive him.

Phil H. Murphy.

Phil H. Murphy, secretary of the National Association of Master Plumbers during President W. H. Halsey's administration, and one of the widely known and highly esteemed men of the trade, died at his residence in Milwaukee, Wis., June 16th, in his 77th year. His death followed a period of ill health extending over a year. Until a few years ago he was active in association affairs, and his eloquence as a speaker invariably aroused attention and applause. He was a man of strong convictions, who always stood ready to champion those principles that make for human progress. Many men in the trade can still recall the ringing tones of his voice, as he addressed a national or state conventioin in the interests of sanitary measures. In the city of Milwaukee he was very popular in association circles. In the latter part of the eighties he was president of the local organization of master plumbers. He was born in Saugerties, N. Y., in 1841, and served his apprenticeship at the trade in Chicago during the early sixties. Among the old-time Chicago plumbers who had employed him, were: John Hughes, Jim Basset, Phil Meaney, Joseph Hogan and George Wilson. Just before the Chicago fire of 1871 he embarked in business for himself in Chicago, moving later to Milwaukee.

The DAY BOOK *of the* BON TON DE LUX PLUMBING & HEATING CO.

Hank Olson and Jerry Dolan Formed a Partnership and Opened a Plumbing and Heating Business January 1, 1918 —Dolan Has Decided to Keep a Day Book, in Which He Records the Interesting Happening of the Day

(Continued from Page 503 in the June 29th Issue.)

June 18, 1918

Our Clow Bulletin arrived this morning, and me and Hank put in a couple of hours running through it and getting on to its make up. It's going to work out mighty fine all right, because we tried it this morning. We used it to check over some invoices, and then we billed a couple of small day-work jobs from it, and then we had a fellow come in that wanted to get a price on some things that we didn't know the prices on, and we looked in the book and found them, and made him a price and sold him. You see it looks like real business to be able to open up a great big book like that and give a man a price right off the bat. It makes him think that a fellow knows his business, and is just as impressive to a customer in a plumbing shop as a few hundred law books are to a lawyer's customers.

June 19, 1918.

A lady came in this morning with a page, which she had clipped out of a magazine, and she wanted a price on the fitting which it described, but we didn't have a price on it, and so we got her name and address and told her we would get hold of the manufacturer's salesman and get his price and then let her know what it would cost. It was a shampoo fixture for lavatories, and the manufacturer's salesman had been in the store some time back and pasted a sticker with his name and address on it on the phone book, and so we called him up, and he said he would be over in the morning.

June 20, 1918.

The salesman came in this morning and gave us a price on that fixture, and we went over to see the lady and told her what it would cost installed, and she said to go ahead, and there was a little other work to be done there, and she told us to do that, too, so that little ad will bring in a couple of days' work for us and the sale of some material, too. We bought a couple of them, so as to have one to show to anyone else that might come in.

June 21, 1918.

We had a long talk with the salesman about brass goods, and, of course, he was boosting his own line, which was all right, and it looks like the thing to do is to have two kinds of brass goods on hand. There are some people that want the best, and will pay for it, and there are others that want the cheap stuff. It's the same in other lines—grocery stores have several kinds of tea and coffee with different prices for each; the down-town stores have all grades of goods, and they even have basement bargains, so as to get right down low; and the clothing stores will sell a suit for $8.00 or $10.00, if you want that kind, but if you want a $100 suit made to order, you'll find them ready and more than willing to fit you out with one. It looks like it's wrong for the plumber to sell and install competition stuff for people that want and can pay for quality goods.

June 22, 1918.

Me and Hank went over the books the 15th of the month, and we found quite a few people that had not paid for their work, and so we got busy and sent out some middle of the month statements, and on some of them we asked real polite for the money due, and on others we cut out the polite stuff and told 'em to dig up quick. Well, sir, about half of them have come across already. It looks like a good time to send out statements. Of course, we have to send them out the first of the month, because some people pay according to the statement, and lots of people pay by the 10th of the month, but there are some people that don't pay any attention to the 10th of the month stuff, and a reminder along the middle of the month is very likely to bring a check in the return mail.

June 23, 1918.

We had planned to stay home and work in the garden today, but we had to get in the flivver and go out to the lake. You see, about 7 a. m. the phone bell rang, and I thought it was somebody wanting a job done, and so I hopped out to answer it, and a fellow says he read my ad in the morning paper for a colored butler, and he wanted the job. Well, I told him there must be a mistake, because I hadn't advertised for a butler, and so I got rid of him; and then pretty soon it rang again, and Mrs. Dolan answered it, and it was a girl looking for a place as a maid, and she was colored, too, and said there was an ad in the paper, and Mrs. Dolan told her it was a mistake, but she might just as well have kept on talking to the first one, because as soon as either of us would hang up the phone, there would be another call, and it would be the same old story over again, and so I disconnected the phone, and we beat it for the lake before that gang would begin to make personal calls. Mrs. Dolan says she didn't advertise for a maid and butler, and I know darned well that I didn't, so it must have been a mistake somewhere.

June 24, 1918.

One of my old pals came in this morning, and says he heard I had gotten married, and so I gave him a cigar that one of the pedlars had left, and then he says he is selling life insurance for the best company in the world, and he says that I need a policy made out in favor of Mrs. Dolan, and I told him there was nothing doing, and that I couldn't afford it, and that anyhow I didn't believe I could pass the examination, but he don't listen to reason at all, and so he calls up somebody on the phone and tells them where he is, and pretty soon in comes a doctor, and before I know it he gives my lungs and heart the once over, and

says that I can pass without any trouble, and to come over to his office between 2 and 3, and he hopped along, and the insurance man is busy writing, and pretty soon he says: "Sign here. I made it out for only $5,000." Well, I signed. And just then Hank came in and he says "hello" to Hank, and then he says that we ought to have some partnership insurance. He says that all of the big concerns in the country take out insurance for their men, and they pay the premiums out of the company funds, and charge it to expense, and he says that it's pretty nice to have a chunk of money come in, if one of the partners dies, because that is the time they need money, so as to get things squared around and break in a new man, and so now me and Hank is both going over to the doc's office, and, if we pass, we'll take out a couple of firm policies for $5,000 each.

June 25, 1918.

If those insurance men can run around and sign up people so their relatives can get money when they die, we plumbers ought to be able to run around and sell plumbing and heating, so as to keep them from dying so young.

June 26, 1918.

From the number of ladies who attended the National Convention, it looks like it would be a pretty good idea to have a Ladies' Auxiliary for every Master Plumbers' Association. Every master plumber should consider it his duty to belong to the local commercial, or improvement or civic club, or whatever they call it, and he should attend meetings and be one of the moving spirits. And if the ladies have their club, it is probable that they will be affiliated with the local association of women's clubs, and this will give them a chance to boost for better plumbing and heating in the schools, shops, stores, and homes. and another thing, when the plumbers' wives attend these meetings, and find that the other ladies present are driving their own cars and doing things like that, you can bet that the master plumber is going to have to explain why it is that his wife can't have a car of her own, and Mr. Plumber will put on his thinking cap, and when the boys have a little meeting they will all have the same experience to relate, and the long and short of it will be that they will have to do business along profitable lines, and they will do it, because the wives will see to it that they do it.

June 27, 1918.

Had to go out to look over a job, that we are doing, this morning, and the fitter sure did pull a boneheaded one. He was running a 3-inch feed and return line for a hot water system, and the carpenter had left an opening in one of the basement partitions for a window, and the fitter had run his pipes through this opening. We either got to change the pipes or else get the carpenter to locate his window somewhere else.

June 28, 1918.

Was out on Lake Stret this morning and saw a couple of plumbers' wagons. One had about thirty pieces of curbing and a street key in it, and the other one had a string of fittings and a couple of lengths of pipe, and they was moving along so slow that a fellow had to sight them over a post to see that they were moving at all. It's a funny thing that some plumbers can't see how expensive it is to keep a horse and a wagon and driver just to haul a few trinkets around, when they could get a Ford for about the same money, and make some real time in their hauling. And, another thing, the Ford would'nt be eating where there was nothing for it to do. Most of us do better to have a Ford or two for the boss and foreman to use and then hire a rig when there is a little extra hauling to do. Keeping a horse and wagon is an item of overhead expense that amounts to real money, and a fellow has to repack an awful bunch of faucets to make it up.

June 29, 1918.

More trouble today. Got a bill from the city for repairing a pavement on a job that we had before we joined the Sanitor Construction Co., and it was some bill, and there was no comeback because we had included the paving in our bill. Come to find out, the laborers had burned the blocks so as to thaw out the ground to make the digging easier, and now me and Hank got to pay for new blocks. I dropped in at Old Man Flannigan's, and the bookkeeper says that a plumber is a chump to guess on paving repairs, and anyhow he says the thing to do is to let the owner do the guessing by leaving the repaving to him.

June 30, 1918.

There was one thing at that National Convention that was a bear. They had two plumbing shops; one was a brand new, spic and span, up to the minute place with nice white fixtures and a clean floor and new desks and a typewriter and an adding machine and letter files and things like that. Say, boy, it was the real thing all right. And then right side of it, they had a dirty little dinky old "shop" and shop is the right word. It was dark and dingy. A few old tools were piled on the floor and the bench, and hung from the ceiling. Some old pieces of pipe, a few fittings, a lantern without a globe, a pair of leaky rubber boots, an old maul, a catalog showing the plumbing equipment used in the Ark, a few coils of kinky lead pipe, and a few antiquated basins, sinks and closet bowls. In front of the shop there was an old range tank and a slate and pencil was attached to the door frame, also the historic sign, "Back in one hour," with time of leaving not mentioned. Looking at that old dump and the new one side by side brought home more forcibly than words can tell the knowledge that immense strides have been made in plumbing just as in other fields of endeavor. Many of the master plumbers present have worked in shops like the old one, and most of them now own shops like the new one.

(To be Continued.)

PLEDGE WHICH MEANS SAFETY.

Here is a pledge distributed by the University of Arizona Bureau of Mines which may well be carried out by all workers rather than by miners alone:

That my after years be unmortgaged to regrets and sorrows and "what might have been."

That I and mine may lead a cleaner life, a more fruitful life, a happier life.

I Pledge Myself.

To think always of my own safety and of the safety of my fellow men.

To keep my eyes open for unsafe conditions and to take proper measures for their remedy.

To keep the machinery I work with and the tools I work with in good order.

To wear goggles whenever there is a chance of an eye injury.

To attend at once to the most trivial injuries that I may sustain, whether in the plant or in the home.

To be helpful to my fellow man, especially to the new man; to show him how his work can be done properly and safely.

To be orderly in my habits.

To be cheerful, hopeful, useful, careful.

To be a loyal employe.

To be a loyal citizen of the United States of America.

The SUMMER MEETING *of the* AMERICAN SOCIETY *of* HEATING *and* VENTILATING ENGINEERS, *at* BUFFALO

Fuel Conservation to Win the War is Subject of Deep Interest at Sessions—Question of Changing Name of Society is Introduced for Consideration

THE American Society of Heating and Ventilating Engineers held its semi-annual meeting at the Statler Hotel, Buffalo, N. Y., on Wednesday, Thursday and Friday, June 26th, 27 and 28th. A very interesting program of business and technical discussions, coupled with the entertainment features, united to make the meeting a complete success. The many natural attractions of the city that make it peculiarly a convention town were included in the tours and outings of the members and their guests. The weather was par excellence during the three days.

Constructive plans for assisting the Government in its win-the-war program and at the same time solve the complex problems of providing for proper distribution of fuel were proposed and discussed. Fuel conservation in its relation to public comfort was considered from every angle. This subject proved to be the keynote of the sessions. The members felt keenly the responsibility resting upon their shoulders in this great movement. The necessity of formulating effective plans to prevent any shortage of coal next winter was strongly emphasized and action along this line was urged without delay—"Now"—and not next winter.

Much credit is due to C. A. Booth, chairman of the entertainment committee, for the interesting program of lighter vein which he had arranged.

Wednesday Morning Session.

The meeting was called to order by President Fred R. Still, after which Mayor Buck, of Buffalo, was introduced. In a brief address he cordially welcomed the members to the city.

H. G. Issertell, of New York, responded to the mayor on behalf of the society.

President Still then read a paper, in which he recommended that the name of the society be changed in order to faciltate the movement now on foot to attract men of kindred engineering fields into the membership fold of the organization. He suggested that the name, "The American Society of Consulting Engineers," be adopted He urged the members to give the question serious consideration with a view to acting for or against the recommendation at the meeting to be held in New York next winter.

Reports were then heard from delegates from the different chapters.

J. I. Lyle, chairman of the Committee on Research Bureau, read an interesting report, in which he told of the great work the committee had undertaken in collecting data from all parts of the country on the amount of fuel consumed, it being the aim of the investigators to assist the Fuel Administration in submitting a schedule for the proper rationing of coal based upon a per room and temperature basis. A resolution was passed endorsing the work of the committee and recommending the continuance of its research.

The report of the Committee to Confer with the Bureau of Mines was read and accepted. This was followed by a report of the Publication Committee which was adopted as read.

J. E. Emswiler presented a valuable paper on the "Electrical Method of Testing Radiators." He said in part:

"The electric method of testing radiators, as developed at the University of Michigan, consists of the generation of the steam used by the radiator, by means of an electric heater, and the determination of the heat required for this by measurement of the electric energy consumed in the heater.

"A complete single pipe heating plant is installed in the testing room. This comprises the heat distributor, which is the radiator, and the steam generator, which is the boiler. The source of heat for the boiler is an electric current operating through a resistance immersed in the water. Of the entire quantity of heat supplied, the radiator receives by far the greater fraction. What the radiator does not receive is lost to the air of the room by direct action from the boiler. This direct loss from the boiler is relatively small, since the boiler is thoroughly insulated and it can be easily and accurately determined by calibration. The boiler loss deducted from the total input measures the performance of the radiator."

Referring to one of the disadvantages of the electric method, Mr. Emswiler said:

"The one big disadvantage of the electric method is that it requires considerable special apparatus, which is rather expensive. But in all other respects, it is our experience that it is superior to the steam method. The flexibility of location in the room, the refinement of measurement of input, the maintenance of a uniform pressure, and the facility of changing radiators for test, are all worthy of note. In addition, the electric method offers the advantage of furnishing the steam to the radiator in a saturated or wet state, which is the normal condition of operation. This advantage is probably slight in itself, but taken in connection with the difficulty of maintaining a constant small amount of superheat, which is necessary in the steam method, it is well worth considering."

A topical discussion of the "Velocity of Steam Flow in Mains to Prevent Condensation Draining Back," concluded the technical program of the morning.

Before adjourning for luncheon, President Still introduced Miss Helen R. Innis, of New York, a new member and the first woman to be enrolled in the society.

Wednesday Afternoon Session.

The afternoon session was called to order with President Still presiding.

The first paper read was one by A. C. Willard, on "The Heat Transmission of Standard Building Materials." This evoked considerable interest. Mr. Willard said in part:

"The object of this investigation is to determine the co-efficients of heat transmission of standard building materials for exterior building walls under conditions similar to those commonly found in practice. In applying these co-efficients to actual problems it is necessary to take account of the temperature of the air inside and outside the building; therefore the data must be determined under similar or comparable conditions. Since it is impossible to test all types and combinations of exterior wall construction, some method must be devised for applying the data obtained from the tests of a relatively small number of simple walls. This method should permit, by a simple calculation, the determination of the co-efficient of transmission in the case of the various compounds and special walls. It is necessary, therefore, only to apply the simple principles underlying the transfer of heat to, through, and from a building wall, and to determine the basic co-efficients required in making the calculations of the actual transmission co-efficient.

"U is the heat, in B. t. u., transmitted by one square foot of wall surface per hour, per degree of difference in air temperature, inside to outside, for the thickness of wall actually tested. For the solid walls, such as brick, concrete or cork, C is the conductivity of one square foot of wall surface per hour, per degree of difference in the surface temperature, per inch in thickness of the material tested. For walls made of other than solid materials, such as the tile walls, the value of C is given for the thickness of wall actually tested. The surface co-efficient K_1 is the heat received by one square foot of wall surface per hour, per degree difference in temperature between the inside air and inside wall surface. K_2 is the heat emitted by one square foot of wall surface per hour, per degree of difference in temperature between the outside wall surface and the outside air. The thickness or nature of the wall does not affect the determination of surface co-efficients.

"The following summary includes the more important conclusions which have been drawn from the results of the investigation:

"1. For determining the transmission co-efficient, air to air, and the outside surface co-efficient, mercury thermometers may be used, and if properly installed will give results of practically the same accuracy as those determined with the thermocouples. Mercury thermometer wells were shown to be of no value in determining surface temperatures. The method finally adopted was to imbed the thermometer in the surface so that its center line would lie in the plane of the surface of the material being tested. Thermocouples are to be preferred for determining temperatures in this work.

"2. A variation in the air velocity over the surface affects both the air-to-air co-efficient and the outside surface co-efficient. The outside surface co-efficients of brick and wood surfaces are affected in practically the same manner at the lower air velocities, while the co-efficient for brick gradually rises above that of wood for the higher velocities.

"3. The co-efficient of transmission, U, for a simple or compound wall, floor or roof can be readily computed provided the surface co-efficients for the building materials used in the surfaces are known for both still and moving air conditions. It is also necessary to know the co-efficients of conductivity for all the materials used in the wall. These co-efficients should be determined on full size walls for the temperature ranges usually encountered. The effect of moving air is to increase the value of the outside surface co-efficient, and this increase involves the combined action of heat transfer by radiation and convection. While this effect is variable, according to the velocity of wind, it seems evident that it can always be expressed as some function of the still air co-efficient for the same wall; thus where the average wind movement during the heating season is approximately 15 miles per hour, a value of $K_2=3\ K_1$ is recommended. In any case, the test data obtained here indicate the manner and degree in which the factor varies for different velocities so that the value of K_2 can be modified to conform with the conditions of wind movement existing in the locality where the heat transmission data are to be applied.

"4. The effect of the relative humidity of the air on the heat transmission of an ordinary building wall is so small that it can safely be neglected in determining the total heat loss from a building. An increase in the relative humidity of the air causes a slight increase in the value of the surface co-efficient; hence the overall transmission co-efficient becomes larger. If the walls are actually wet so that they absorb moisture, the co-efficient of conduction, C, may be seriously affected, as in the case of brick work where an increase of at least 25 per cent may easily occur.

"5. Air space construction is of value at low temperatures, but not at high temperatures. In all cases the heat transmission across an air space will rapidly increase not only with an increase in the temperature difference in the enclosing walls, but also with the same difference of temperature, if the absolute values of the enclosing wall temperatures are increased."

A paper on the "Ventilation of Mines," by Thomas Chester was read, arousing an interesting line of discussion.

The use of independent air heater units for factories, warehouses and large interior spaces, was the subject of a topical discussion, which resulted in the passage of a resolution to the effect that a committee be appointed to investigate the merits of the independent air heater unit and report at the next meeting.

Thursday Morning Session.

This was known as the "Drying Session," and opened with an address by H. C. Gore, chemist, of the Department of Agriculture. He reviewed the work along co-operative lines, which the government has undertaken in the preservation of fruits and vegetables in conjunction with fuel conservation.

"How Food Will Win The War," was the subject of an interesting paper by W. A. Perry, which was read following Mr. Gore's illuminating address.

W. L. Fleisher read a paper treating upon the subject of "Food Dryers and the Use of School Houses for Drying." His paper brought out a profitable line of questions and answers.

Thursday Afternoon Session.

This session opened at 3:00 p. m. at the Buffalo Canoe Club, situated at Abino Bay, on the Canadian shore of Lake Erie.

"Reasons for Failure of Heating Systems," was the initial paper of the session and was read by Professor John D. Hoffman. One of the salient points of the professor's masterly paper follows herewith:

"The time has come for a campaign of education for more satisfactory heating and ventilation in the homes of our country. Business blocks, auditoriums, schools

and buildings of larger proportions have been carefully worked out, and because of their importance as public utilities, have been treated with such respect by both architect and engineer as to insure fairly satisfactory service. The home of the private citizen of moderate means, on the contrary, still suffers grievously. The need for corrective agitation is apparent, and our society should find some means through which to educate the public to demand and see that they get more satisfactory heat in their homes.

"The recent coal situation has served the purpose of calling to the attention of heating and ventilating engineers that in the future economic problems of the home they must necessarily become more factors. Heretofore they have pacifically endeavored to fit their heating and ventilating systems into ill-conceived and poorly constructed houses and have trusted to their ability as engineers to overcome the handicap imposed upon the systems by architects or constructors who knew little and cared less about the requirements of home comfort. The heating and ventilating engineers this past winter have shown their willingness to do anything in their power to tide over the acute stages of panic and suffering due to the fuel shortage. They have unceasingly counseled 'fewer fires' and 'more economic firing,' because under the conditions this was all that could be done. Then, nothing counted as much as direct coal saving, but now that the stress of severe winter has passed, we may ask ourselves: What and how may the heating and ventilating engineers do to assist in laying the foundation of a more effective economy in the years just ahead?

"I have especially in mind some of those conditions (principally residential) that not only work against economic heating, but absolutely prevent it in a large number of cases. Some of these conditions are due to the mistakes of the architect, with knowledge aforethought or otherwise, some of them to those of the heating man (or hardware man) who installs the system, and some of those of the householder who practicing false economy is not willing to pay the price of good work."

C. W. Baker's paper on the subject of "Campaign for Fuel Economy in House Heating," stimulated a very live discussion. Special emphasis was laid upon the urgent necessity of co-operating with the Government along this line.

Konrad Meier read an interesting paper on "Economy In Heating," which developed a number of vital queries and some valuable viewpoints were elicited.

Another paper by C. W. Baker on "Reforms in the Design of Hot Air Heating Plants," was then read and discussed at some length. A resolution was passed instructing the Publicity Committee to revise this paper along with other suitable ones to be forwarded to the newspapers as data of interest to the general public.

Friday Morning Session.

This session was known as the "Fuel Conservation Session," and was opened with an exceptionally interesting paper by Dr. M. W. Franklin on "Spontaneous Combustion." The doctor's address was highly appreciated by all who heard it.

P. M. O'Connell presented a valuable paper on the "Heating of the Base Hospital at Camp Dodge." Marked attention was given to the reading of this paper, followed by an interesting series of questions.

Delegates and Guests at the Summer Meeting of the American Society of Heating and Ventilating Engineers, Held at Buffalo, N. Y., June 26-28, 1918.

D. C. McNurtrie read a paper entitled: "Duty of the Employer in the Reconstruction of the Crippled Soldier."

In the topical discussion that followed, the subject of fuel consumption, required for operation of air washers, concluded the morning session.

Entertainment Notes.

On Wednesday afternoon the ladies were entertained at a theater, where they enjoyed a high-class bill. In the evening a reception and dinner dance was given in the beautiful ball room of the Statler Hotel. Mr. Issertell, of New York, introduced some novelty dances and directed a prize dance that afforded much amusement to the party.

On Thursday afternoon members and guests made the trip to the Buffalo Canoe Club in a launch, arriving there in time to hold an afternoon session. This was followed by a delicious chicken dinner. Members and their ladies then enjoyed dancing in an adjacent boat house prior to making the evening trip back to Buffalo.

On Friday morning a trip was made to Niagara Falls and later to the plants of the American Radiator Co. and the Buffalo Forge Co.

Members in Attendance.

The members who attended the meeting were:

A. S. Armagnac, New York; C. A. Booth, Buffalo; Ralph Collamore, Detroit; M. L. Crowell, Cleveland; M. J. Callahan, New York; F. A. DeBoos, Kansas City, Mo.; P. J. Dougherty, Utica, N. Y.; Frank T. Chapman, Thomas Chester and Frank K. Chew, New York; R. T. Coe, Rochester, N. Y.; J. H. Davis, H. M. Hart and John M. Frank, Chicago; J. E. Emswiler, Ann Arbor, Mich.; W. G. Fraser and L. A. Harding, Buffalo; J. D. Hoffman, Lafayette, Ind.; H. H. Hughson, Detroit, Mich.; Miss Helen R. Innis, New York City; W. M. Kingsbury, Cleveland; R. C. Holly, North Tonawanda, N. Y.; J. F. McIntire, Kansas City, Mo.; H. G. Issertell, New York City; E. E. McNair, Detroit; C. W. Obert, J. I. Lyle and W. S. Timmis, New York; W. F. McDonald, Detroit; Frank G. Phegley, Cleveland; A. G. Pittelkow, F. R. Still and J. H. Walker, Detroit; L. C. Soule, Buffalo, N. Y.; W. B. Van Sickle, Cleveland; H. S. Welsh, Rochester, N. Y.; H. W. Wendt, Buffalo, and Perry West, Newark, N. J.

Guests in Attendance.

Among the guests at the meeting were:

Mrs. C. A. Booth, Buffalo; Mr. and Mrs. R. E. Bronson and Donald Bronson, Cleveland; Mrs. R. T. Coe, Rochester, N. Y.; Thos. L. Cook, United Association of Journeymen Plumbers, Gasfitters and Steamfitters; A. Criqui, Buffalo; Mrs. M. L. Crowell, Cleveland; A. R. Diehl, Buffalo; Mrs. P. J. Dougherty, Utica, N. Y.; R. Farnham, Mrs. Forsyth, Mr. and Mrs. R. V. Frost, C. W. Farrar, Mrs. W. G. Fraser, Mrs. F. D. Harger, Mrs. L. A. Harding and F. B. Howell, all of Buffalo; Mrs. H. M. Hart, Chicago; Lewis Jones, of "Power Magazine," Arthur W. Kelly, Minneapolis; A. H. Kenninger, Cleveland; Mrs. W. M. Kingsbury, Cleveland; F. S. King, of "Domestic Engineering," Chicago; H. deKruyff and W. T. Laur, Buffalo; Mr. and Mrs. T. E. Loughnane, Cleveland; Mr. and Mrs. C. H. Love, W. A. McLaughlin and Miss Patterson, all of Buffalo; Mrs. C. W. Obert and Mrs. W. S. Timmis, New York City; F. J. Peterson, New York City; Mrs. F. G. Phegley and Miss Myrtle Phegley, Cleveland; E. L. Reinhardt, Buffalo; H. F. Rosenow, St. Louis; Mr. and Mrs. P. J. Shower, Buffalo; E. Shower, C. Shower and Arthur Shower, of Cleveland; Mrs. H. W. Wendt, Buffalo; Mr. and Mrs. T. A. Weager, Cleveland; J. Yarger, Buffalo, and Mrs. W. B. Van Sickle, Cleveland, O.

PLUMBING CONTRACTORS OF NORTH CAROLINA IN ANNUAL CONVENTION.

The North Carolina State Association of Master Plumbers held its eighth annual convention at Charlotte, N. C., June 19th and 20th, with a good attendance.

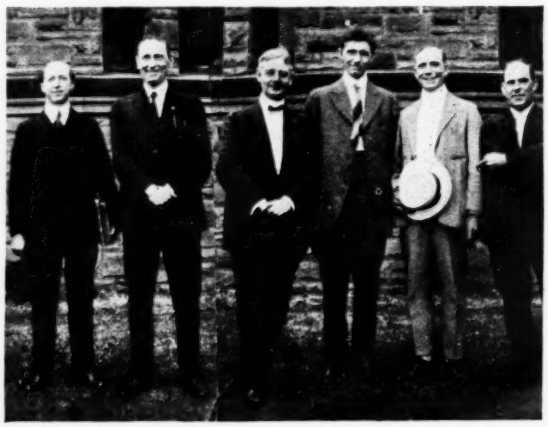
The opening session was called to order in the convention hall of the local Chamber of Commerce, with President Tompkins in the chair. Following the preliminary addresses of welcome, it was announced that the afternoon session would be held at the Plumbers' Retreat Camp, which is situated on the Catawaba River. The delegates made the trip to this picturesque country place in automobiles.

Harold S. Hall, Charlotte, manager of the General Fire Extinguisher Co., of Providence, R. I., was the first speaker at the afternoon session, his subject being "Future Business Conditions." He predicted that while unsettled conditions would prevail for some time, it was safe to assume that a general revival of business would develop following the cessation of hositilities.

President Tompkins then turned the gavel over to Past State President Hackney and proceeded to read his annual report. He reviewed the progress of the organization, stating that its financial condition had improved during the year. He recommended that a credit bureau be established, pointing out that it would prove of much service to the members in stimulating collections.

Reports of officers and business discussions consumed the time of the convention during the two days. The officers elected for the ensuing year were as follows: President, J. J. Breen, Charlotte; vice-president, P. M. Hunt, Greensboro; second vice-president, Leo Suggs, Asheville; third vice-president, J. O. Sullivan, Dunn.

The new members who were officially received into the association were J. O. Sullivan, of Dunn, and the Burlington Hardware Co., of Burlington.



E. L. Dearing and John Knoedler, both of Chattanooga; John L. Evans, of Memphis; W. H. Price, of Knoxville; J. W. Hull, of Memphis, and George Jones, of Chattanooga.—From Photo Taken at the Recent Convention of the Tennessee Master Plumbers' Association.

July 8 and 9, 1918.—The annual meeting of the Executive Committee and the Chairmen of the Standing Committees of the National District Heating Association at the Breakers Hotel, Cedar Point, Ohio.

September 3, 4 and 5, 1918.—The annual meeting of the American Society of Sanitary Engineering, at Chicago, with headquarters at the Congress Hotel.

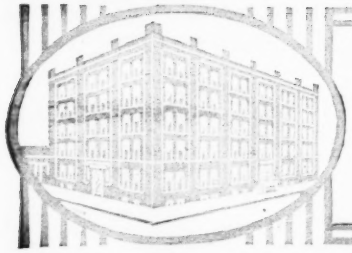
October 14 to 17, 1918.—The annual convention of the American Public Health Association, at Chicago.

Treason Charges May Follow Theft Of Copper.

Six men arrested in Hoboken, N. J., are facing a charge of theft out of which may develop the much more serious charge of treason to the United States. The men are accused of conspiracy to steal seven and a half tons of copper from the Erie Railroad yards in May. The metal belonged to the Government, and the military police took up the task of running down the thieves, which resulted in the arrest of the six men last week.

As the copper belonged to the United States, military authorities contend that stealing it is equivalent to aiding and abetting the enemy, which is nothing less than treason. The men have been held in heavy bail, and the authorities intimate that their trial may lead to developments of a serious nature.

We expect, as a matter of course, that our soldiers and sailors will do as they are ordered. We oftentimes do not think it necessary to do what our Government asks us to do. Why should we not be just as prompt in our response? Our men are ordered to expose themselves to the guns of the Huns. We are asked only to save and to loan our savings to the Government. Can we refuse this request?



Among the Wholesalers and Manufacturers

NATIONAL ASSOCIATION OF BRASS MANUFACTURERS HOLDS SUMMER MEETING AT CLEVELAND.

The National Association of Brass Manufacturers held its summer meeting at the Hollenden Hotel, Cleveland, O., on June 26th and 27th, with an attendance aggregating one hundred members. Commissioner Wm. M. Webster, of Chicago, presided.

A resolution was adopted relative to equalization of freight and freight allowances. It was ordered that, where goods are shipped to the jobbers' home address in lots of 125 pounds or over in one shipment, actual freight be allowed, when the consignee returns the paid freight bill up to $1.50 per hundred weight, or nothing in excess of $1.50. In instances where the freight is 60 cents per hundred weight, when the bill is returned, credit to that extent will be allowed.

A Freight Traffic Committee was appointed, consisting of George A. Harper, Burlington, Wis., chairman; C. S. Johnson, Waukegan, Wis., and R. A. Buckley, Abingdon, Ill.

Upon motion it was decided to give a smoker on the evening of the first day of the fall meeting to be held at the Hollenden Hotel, Cleveland, O., on September 18th and 19th. This will be given in honor of the jobbers, master plumbers, plumbing inspectors and jonrneymen plumbers' officials. A committee was appointed to make the necessary arrangements for the affair. The members of the committee are: W. J. Schoenberger, A. I. Fisher, Raymond Deutsch and E. L. Strauss, ex-officio.

Various committees reported progress, among them being the Committee on Catalogs.

In discussion during the two days of the meeting, it was apparent that while there was no scarcity of brass in the country, the lack of a satisfactory labor supply had embarrassed a considerable number of manufacturers in their output of finished products.

During the meeting, the American Brass Mfg. Co., of Cleveland, O., was elected to membership in the association.

Appropriate memorial resolutions were adopted on the recent death of C. H. Downs, treasurer of the E. Stebbins Mfg. Co., of Springfield, Mass., a former president and director of the association.

BUILDING TRADES TO ORGANIZE FOR WAR.

All branches of the building construction industry have been called by President Harry A. Wheeler, of the Chamber of Commerce of the United States, to meet in Atlantic City, July 15th and 16th to form a War Service Committee.

Of the two hundred and more War Service Committees which the Chamber has initiated since the War Industries Board substituted that arrangement for the Council of Defense's advisory committees, building construction is the largest and most complex. Most of the committees previously organized have involved merely the co-ordination of non-members with some representative organization in a single trade. The Atlantic City gathering confronts the task of first federating into one vast national unit between one hundred and two hundred national, regional, state and local associations in scores of trades, from the cellar concrete to the roof slate, and then drawing from the result a War Service Committee which can speak for the entire industry.

"Co-ordinate assistance to the government during the war" and "reestablishment and maintenance of the general prosperity of the industry" are what President Wheeler mentions as the business of the meeting, which he will open with an address.

Each organization is urged to send as many representatives as possible and to name one delegate—preferably a prominent business man—to serve on an immediate and temporary War Service Committee in case permanent organization is postponed for deliberation.

Arrangements for the conference are being made by Allen Walker, Chamber of Commerce of the United States, Woolworth Bldg., New York City.

THE TRADE EXTENSION CAMPAIGN.

The Trade Extension Committee has just issued the following bulletin, which is self-explanatory:

What is expected of the jobbers?

1. Read all printed matter pertaining to "Building Bigger Business."
2. Supply each of your salesmen with a copy.
3. Instruct your salesmen along the following lines:

A. Inquire of every customer (contracting plumber or fitter) whether or not he is using the "Premise Report Card."

B. If he is not using it, report the name of the customer to you.

C. If using it, ask to see the card and take a memorandum of any material upon said report card that you sell, and see that the name of your company is placed upon said "Premise Report Card."

D. In case no other name appears upon said "Premise Report Card," inquire of said customer whether or not you can assist him in making a sale of the material referred to thereon. If necessary, call upon the prospective owner with your customer and aid him in the sale of the material.

E. Urge upon your customer the importance of reading and fully discuss with him all of the printed publications pertaining to "Building Bigger Business."

F. Caution your customer particularly as to market conditions and the necessity of making no prices except for immediate acceptance and subject to obtaining the material for said improvement, because, although you may have the material in stock, yet it may be commandeered by the Government.

G. Report to this office the name of any customer through whom you have obtained business by reason of this Trade Extension work. Also, the names of any cus-

tomer who is not using the "Premise Report Card," and aiding in this campaign. This information is necessary for the reason that it is the purpose of this Trade Extension Committee to carry on an educational campaign with the contracting plumber and fitter, and we must have these records so that we can decide what localities it is necessary to send representatives to, to educate the trade and build you up a better business in your locality.

The object of this entire campaign is to obtain business in these war times from old buildings. There is and will be a shortage of material. The policy of the Government is to curtail any new building operations, but the repairing of old buildings which are necessary on account of sanitation or heating will be considered subject to prior necessities of actual furnishing of material directly to the Government for war necessities—as essential and a reasonable amount of material can be obtained for this work, as sanitation and heating is vital for the health and the comfort of the citizen, and conservation of fuel. Your co-operation with the contracting plumber and fitter and prompt reports to this office will aid the Trade Extension Committee in carrying on this work to your benefit financially.

This Trade Extension work was started before the Government felt the necessity of curtailing new building operations and we realize that at present it may not create a large volume of business, but this is only the beginning of a program through the co-operation of the manufacturer, jobber and contractor that will build up an organization which will be most necessary when this war ends. It will take time to fully develop this program, but we believe it is of vital importance for this industry that this program be fully organized, worked out and be in perfect working operation at the earliest possible date to protect this industry when conditions readjust themselves.

The benefits you will receive at this time will be only partial, but concerted action cannot fail to bring big business when times become normal. Plant the seed now, and the crop in years to come will amply repay you.

MEMBERS OF WESTERN TRADE GOLF ASSOCIATION PLAY ON ROCKFORD LINKS.

Accepting the invitation of H. E. Keeler to play on the links of the Rockford Country Club, fourteen members of the Western Trade Golf Association spent Thursday, June 27th, in Rockford, Ill. Despite the rain, which dampened both the links and the feet of the golfers, the program of the day went on with considerable pep and fervor.

E. W. Sanborn achieved distinction by winning the low net score, turning in a score of 78, which entitles him to have his name engraved upon the association cup. J. Craig captured the guest prize for low net score, bringing in 82.

An appetizing luncheon and dinner were served at the clubhouse, which is picturesquely located on the Rock River.

Three flights were played, the winners of which were:

First flight, E. W. Sanborn; runner-up, H. E. Keeler.

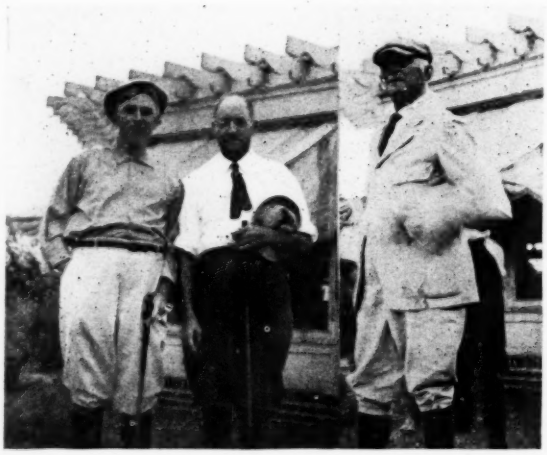
Second flight, J. Craig; runner-up, D. E. McCabe.

Third flight, Wm. Byrd, Jr.; runner-up, L. C. Huckins.

The individual scores of the players were as follows:

	Gross	Hndcp.	Net
H. E. Keeler	92	18	84
W. Wickersham	100	14	86
T. N. Johnson	110	14	96
E. W. Sanborn	98	20	78
F. K. Dibley	118	24	94
Paul Blatchford	115	18	97
D. E. McCabe	106	20	86
J. Craig	**96**	**14**	**82**
L. C .Huckins	111	19	92
C. C. Todd	Did not finish.		
Bruce Fulton	Did not finish.		
Wm. Byrd, Jr.	117	30	87
H. S. Vandenberg	Did not finish.		
F. P. Keeney	Did not finish.		
Peter Munn	Did not finish.		

Bruce Fulton and C. C. Todd acquired cold or rather wet feet. They retreated to the club veranda, where they



William Byrd, Jr., Paul Blatchford and T. N. Johnson, all of Chicago.

watched the gutta percha movements of their comrades in the distance smashing fore and aft in the rain. The aforesaid gentlemen rested comfortably and assisted in the arrangement of the program for the evening's entertainment.

THE "STANDARD" CO-OPERATIVE STORE A SUCCESS.

More than a year ago, about 75 per cent of the employes of the New Brighton, Pa., Works of the Standard Sanitary Mfg. Co., petitioned the company to establish a store from which they could purchase groceries and similar household supplies at a reasonable cost. The officers of the com-

The "Standard" Co-operative Store at New Brighton, Pa.

pany being in sympathy with the subject and willing to act favorably upon the petition advised the petitioners to organize a co-operative association, with the understanding that the company would furnish the capital, space and adminstration free of cost. As a result, the "Standard" Employes Co-operative Association was organized and the store undertaking inaugurated. The store is managed and operated entirely by the employes through the Co-oper-

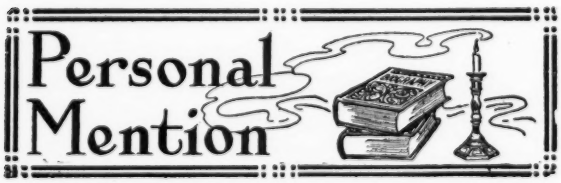
ative Association. No employe is solicited nor instructed to purchase from the store. Their action in this respect is purely optional. The store books are open at all times for the inspection of the association officers who are thus kept informed on the cost and selling price of all merchandise. The store is located in the factory and occupies a space 40 by 65 feet with an adjoining stock room 25 by 40 feet. As the picture indicates, the store presents a wholesome, sanitary appearance and is efficiently operated. W. C. McKinney, general manager of factories for the Standard Sanitary Mfg. Co., has always shown a keen personal interest in this enterprise and states that after a year's experience it has worked most satisfactorily for all concerned.

IN CHARGE OF POWER PLANT EFFICIENCY.

The United States Fuel Administration has just announced the appointment of Henderson W. Knott to manage the field force of engineers and inspectors which is at work among the power plants of the country, carrying out a campaign of instruction and inspection designed to bring the use of fuel for the production of power to the highest possible efficiency and economy.

Mr. Knott has been the general manager of the Morgan Crucible Co., of New York City. His appointment is a part of the plan, originated by David Moffat Myers, advisory fuel engineer of the Fuel Administration, to have each of the 250,000 steam plants in the United States visited by a comptent man who can make suggestions and report in connection with the questionnaire originated by Mr. Myers, working with committees from the four great engineering societies. This work will naturally require a large number of inspectors, devoting their time to traveling among the steam plants.

This field force will be organized by states in order to give it greater force and efficiency. Many of the state heads who work directly under the state fuel administrators have already been appointed and Mr. Knott, cooperating with Mr. Myers, will complete the list of state appointees. Mr. Knott will, at an early date, visit the states already organized to study the work being done by the men in the field, and to speed up the inspection program.



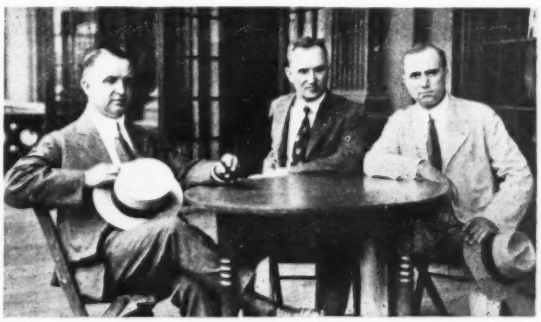
J. B. Bernhard, manager of the Chicago office of the Kanawha Mfg. Co., of Charleston, W. Va., was in New England last week, where he met many of his old friends in the trade.

L. B. Yeiser, sales representative of the Chicago Faucet Co., Chicago, left recently for Washington, D. C., where he expects to remain for some time on government business.

Architect B. J. Hotton, of Chicago, has recently become connected with the selling organization of the Foltz Smokeless Furnace Co., of Chicago. He will cover local sales territory. Andrew P. Dease is manager of the company.

Walter N. Fairfield, of Caldwell & Fairfield, representatives in the New England states for the United Brass Manufacturing Co., of Cleveland, O., and the Peerless Selling Co., of Evansville, Ind., was encountered by a "Domestic Engineering" man in Springfield, Mass., last week. He was "plowing right through 'em" and "heading North."

Quite a lot of excitement down in Waterbury, Conn., last week. The "Big league" hitters of the American Pin Co., held a conference at the home offices, and we will, no doubt, now learn something new regarding tank fittings as a result of their deliberations. One thing we did find out. Here it is: "Dick" Collins says business is very much better in Cleveland than in Chicago. The following gentlemen attended the conference, which was presided over by W. W. Bowers, secretary of the company; "Dick" Collins, of Cleveland; Harold Cross, of Chicago; L. F. Rothwell, of New York City, and Winfred Hall, of Boston.



R. B. Beitel, R. J. Anderson and Jas. W. Barber, all of Ruud Manufacturing Co., Pittsburgh, Pa.—From "Domestic Engineering" Photo, taken at the St. Louis Convention of the National Association of Master Plumbers.

D. F. Moriarity, sales ambassador covering Chicago and Cook County territory for the Burnett-Larsh Mfg. Co., of Dayton, O., has had about one hundred per cent of his pessimism knocked out of his system since he entered upon his present duties some weeks ago. He expected to find the selling field as barren as the Sahara desert, but he has surprised himself in the results he has attained.

CONVERSION OF LIBERTY BONDS.

Liberty bonds of the first and second issues and those obtained by converting bonds of the first issue into 4 per cent bonds can be converted into 4¼ per cent Liberty bonds during the six months' period beginning May 9th and ending November 9, 1918. The new bonds will be dated May 9, 1918.

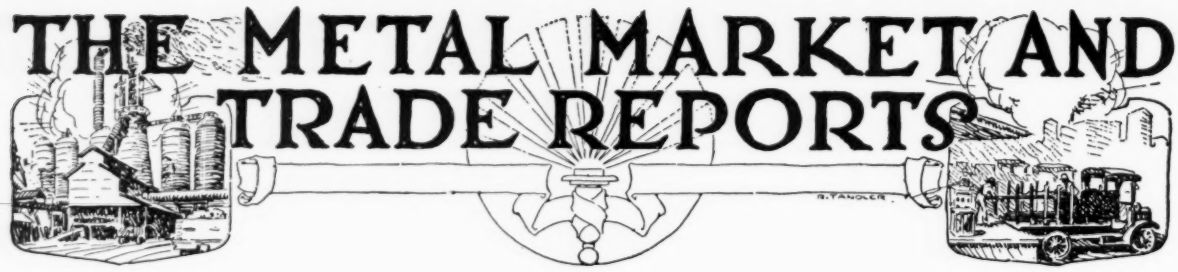
After November 9, 1918, no further rights of conversion will attach to the 4 per cent bonds, either the original bonds of the second loan or those obtained by conversion of bonds of the first loan. All of the 4¼ per cent bonds are non-convertible.

Bonds for conversion may be surrendered at any federal reserve bank or at the Treasury Department. Registered bonds must be assigned to the secretary of the Treasury for conversion, but such assignment need not be witnessed.

On conversion of registered bonds registered bonds only will be delivered, neither change of ownership nor change into coupon bonds being permitted.

Coupon bonds, however, may be converted into registered bonds upon request. Coupon bonds must have the May 15th or June 15, 1918, coupons detached and all subsequent coupons attached. Coupon bonds issued from conversion will have only four interest coupons attached, and later must be exchanged for new bonds with the full number of coupons attached.

THE METAL MARKET AND TRADE REPORTS



Steel and Iron.

The organization of the steel industry under the direction of the War Industries Board and the Director of Steel Supplies, with the co-operation of the producers, is resulting in an outturn that is astonishing. Producers are bending every effort toward accomplishing the work which has been laid out for them and are succeeding beyond the most sanguine expectations. The main interest now centers in the heavy allotments of steel for shipbuilding and munitions. The output of plates in ship steel has been so heavy that the yards have not been able to consume it, so that a surplus is accumulating, in accordance with the plans of the War Industries Board and the Emergency Fleet Corporation. Non-essential classes are getting but very little steel. Prices remain as established during the third quarter.

There is no trading in pig iron between buyer and seller, hence there is no market and the middleman has been eliminated. But the producer may not sell nor the consumer buy when or where he wants, nor has he anything to do about price, on which he sells or buys. In order to secure iron the purchaser must be one whose finished products are considered essential to the war program of the Government. Contracts have not been abrogated openly, but it might just as well be so, because the furnaces can make up deliveries unless they are convinced that the iron is to be used in line with the Government's intentions, and if the holder of the contract is not engaged upon any Government work he gets no iron at all. All the surplus accumulating in this way is absorbed in other ways, and in this manner producers have gained some headway on current obligations. Prices are based upon the old standard grade of No. 2 foundry iron at $33, and basic iron at $32, at the furnace.

Copper.

The amount of copper consumed in the United States which does not find its way eventually to some Government use can not be more than 10 per cent of the output. Labor is reported short in some producing sections, which will cause a falling off of production naturally, but on the whole there is nothing to fear in the situation. Consumption remains heavy and is almost all going into Government requirements for use by the United States and her Allies. The price remains at 23½ cents per pound for carload lots, and 24.67½ cents for lesser quantities.

Tin.

Consumers' needs of tin have been provided for and their interest in the market is not keen at present. They are more concerned now with the outturn of products on Government account, and arrangements are such that they feel sure of their position. Prices, however, are holding up, as sellers are not forcing the market. Chinese tin is scarce, and Lamb and Flagg afloat was quoted at 89½ to 90 cents. Spot 99 per cent tin can be had in New York at 94 to 95 cents.

Lead.

The supply of lead is not very plentiful, which makes the demand more pronounced. The official market price for lead has been established subject to change at any time at 7.90 cents in New York, and 7.75 cents at East St. Louis. But so little lead is offered that to buy for prompt delivery means an outside purchase at from 8⅛ cents to 8¼ cents a pound, which is the actual market now. It is expected that the lead market is to be placed under control, and distribution also.

Spelter.

Demand for spelter has been good of late, and as production has been curtailed the market gets stronger. Prime Western spelter is quoted strong at 8.67½ cents to 8.87½ cents, New York, for all positions to the end of July.

Other Metals.

Quotations on other metals in New York are as follows:

Aluminum (in 100-pound lots)	49 cents per lb.
Antimony, Chinese and Japanese	18 cents per lb.
Solder No. 1	63 cents per lb.

New York Old Metal Market.

The following prices are current for old metals:

	Buying.	Selling.
Copper, heavy	22 cents	23 cents
Copper, light	18¾ to 19½ cents	20½ cents
Copper wire	20 to 21 cents	22 cents
Brass, heavy	13½ to 13¾ cents	14½ cents
Brass, light	10½ to 11 cents	12 cents
Lead, heavy	6½ to 6¾ cents	7¼ cents
Tea lead	5 to 5¼ cents	6 cents
Zinc scrap	5½ to 5¾ cents	6½ cents
Solder joints	14 to 15 cents	16 cents
Cocks and faucets	17 to 17½ cents	18½ cents
Mixed babbitt	8 to 8¾ cents	9½ cents

Chicago Old Metal Market.

The old metal market is still very quiet. Dealers report that consumers are still confining purchases to the material needed for urgent orders and are averse to taking on any great stock of any grade. The tone of the market is fairly steady and values show but few changes. Yellow metals are not being purchased in anything like normal amounts, and while values are unchanged with the exception of brass clippings, which are quoted at 14¾ to 15½ cents, the market is entirely unchanged .

Chicago wholesale dealers' prices are nominally as follows:

	Buying.	Selling.
Heavy yellow brass	15 to 15½ cents	16½ cents
Brass, light	11 to 11½ cents	13 cents
Red brass	21 to 22 cents	23 cents
Cocks and faucets	16 to 17 cents	18 cents
Copper, heavy	21 to 22¼ cents	23 cents
Copper, light	19 to 19¾ cents	21 cents
Lead, heavy	6½ to 6¾ cents	7¼ cents
Tea lead	5¼ to 5¾ cents	6½ cents
Lead dross	4¼ to 4½ cents	5½ cents
Solder joints	15¼ to 15¾ cents	16½ cents
Old iron pipe	23.75	$24.25

Contribute to the Red Cross fund.

The Pipe Market.

There is no change in the pipe market. Quotations on less than car lots of full weight steel pipe remain as follows:

	Butt Weld.		Lap Weld.	
	Blk.	Galv.	Blk.	Galv.
⅛ to ⅜ inch	38	10	....	....
½ inch	42	26	....	....
¾ to 3 inch	45	30	....	....
2 inch	....	....	38	24
2½ to 6 inch	....	....	41	27
7 to 12 inch	....	....	38	23
12 to 14 inch	....	....	28½	....
15 inch	....	....	26	....

The quotations apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong steel pipe in less than car lots, quotations are as follows:

	Extra Strong				Double Extra Strong			
	Plain Ends Butt Weld		Plain Ends Lap Weld		Plain Ends Butt Weld		Pl'n Ends Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.
⅛, ¼ and ⅜ inch	31	11	....	....	....	....	....	....
½ inch	36	16	....	....	27	7	....	....
¾ to 1½ inch	40	20	....	....	30	10	....	....
2 to 2½ inch	41	21	....	....	32	12	....	....
3 inch	41	21	....	....	....	....	....	....
2 inch	....	....	33	14	....	....	25	6
2½ to 4 inch	....	....	36	17	....	....	27	8
4½ to 6 inch	....	....	35	16	....	....	26	7
7 to 8 inch	....	....	31	12	....	....	21	2
9 to 12 inch	....	....	26	7	....	....	....	....

With threads only, the basing discount is 1 and 1½ points lower. With threads and coupling the basing discount is 3 points lower. The quotations apply to all quantities less than car lots.

Quotations on full weight genuine iron pipe, in less than car lots, are as follows:

	Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.
⅛ and ¼ inch	16	+13	....	....
⅜ inch	17	+12	....	....
½ inch	21	1	....	....
¾ and 1 inch	26	8	....	....
1¼ inch	26	8	11	+6
1½ inch	26	8	18	2
2 inch	....	....	19	3
2½ to 6 inch	....	....	18	3
7 to 12 inch	....	....	18	3

These quotations are f. o. b. Pittsburgh, and apply to all shipments from stock, regardless of quantity.

On extra strong and double extra strong genuine wrought iron pipe, with plain ends and in less than car lots, the quotations are as follows:

	Extra Strong				Double Extra Strong			
	Butt Weld		Lap Weld		Butt Weld		Lap Weld	
	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.	Blk.	Galv.
⅛ to ⅜ inch	13	+7	....	....	....	....	....	....
½ inch	18	+2	....	....	5	+15	....	....
¾ and 1 inch	24	4	....	....	10	+10	....	....
1¼ inch	24	4	10	+10	10	+10	....	....
1½ inch	24	4	16	+4	10	+10	....	....
2 inch	....	....	18	+2	....	....	5	+14
2½ to 4 inch	....	....	20	List	....	....	7	+12
4½ to 6 inch	....	....	19	+1	....	....	....	....
7 to 8 inch	....	....	11	+9	....	....	....	....
9 to 12 inch	....	....	6	+14	....	....	....	....

These retail prices are f. o. b. Pittsburgh, and apply to all quantities except in car lots. With threads only, the basing discount is 1½ points lower. With threads and couplings, the basing discount is 3 points lower.

To ascertain the price in any city, deduct the proper freight rate from Pittsburgh to that city. To illustrate: ¾ to 3-inch steel pipe, black, is 45 per cent off, Pittsburgh. The freight to Chicago is 39 cents, or it would be 45 per cent minus .039, or .411 per cent Chicago for 10 cents a hundred freight you should deduct one point.

ENGLISH BRASS MEN PREPARE FOR POST-WAR TRADE.

The Brass Masters' Association of Birmingham, England, has been giving careful consideration to the reconstruction problems that will arise on the cessation of hostilities, and has arrived at the conclusion that if British industry is adequately to meet German efforts in neutral markets much of the old method of trade must go, and in its place an intensified system of production must be established. The idea is not to reduce wages, but to effect economies by increasing output. Brass masters, whose works can be easily adapted to the production of certain goods will be asked to specialize in those lines for the whole of the trade, and in this way be better able to meet the new competitive conditions that have arisen in the various foreign markets.

The brass trade has also drawn up a project for the establishment of the co-operative principle, the object of which is to set up a central buying organization and also a central export selling agency. The scheme has met with unanimous approval among those connected with the industry. Working at full capacity for the past three years or more has shown that the cost of production can be very materially reduced. Through this proposed consolidation policy manufacturers would be able to specialize more than they have hitherto done, efficiency would be carried to its highest point, and a maximum output maintained. It is also hoped that in this way the highest technical advice would be obtained and the speedy adoption of improved methods of manufacture with consequent low working costs secured.

IRON AND STEEL CONDITIONS IN GERMANY.

"The state of the West German iron and steel market," says the Essen correspondent of the Yzer en Staal Kronick, a Dutch technical paper, "is very satisfactory so far as foreign trade is concerned, but internally it has great difficulties to contend with. The organizing ability of the Germans has stood them in good stead during the war, but the question is now whether organization has not been overdone? There are too many wheels going round now, and they do not always move in the right direction. The outsider hears of big dividends, of factories doubled in size, of a production that has outrun the means of transportation, but those within the works are racking their brains with questions of lack of materials—including coal and coke—want of assistance, the steady rise in wages, the dearness of raw stuffs, maximum selling prices, compulsory deliveries, urgently needed repairs and so on." The correspondent goes on to say that the Government pays very high prices just for the purpose of keeping the works going. The railways and all the rolling stock are being worn out at a frightful rate for want of men and material to do repairs. There is no question of cleaning, painting or glazing, but the scarcity of trucks has been lessened a good deal, although the so-called peace in the East has only brought slight relief. So far as the supplies of raw materials are concerned the industrial West is much better off than the South. More iron ore is being carried by water, and the supplies of native-mined manganese ore have increased. The production of pig iron appears to keep at a steady level, but that of basic Bessemer pig has decreased by about one-half owing to the scarcity of coke. There is very little scrap offering; the supplies from the occupied territories are poor, and those who have stock are not inclined to sell at the present prices.

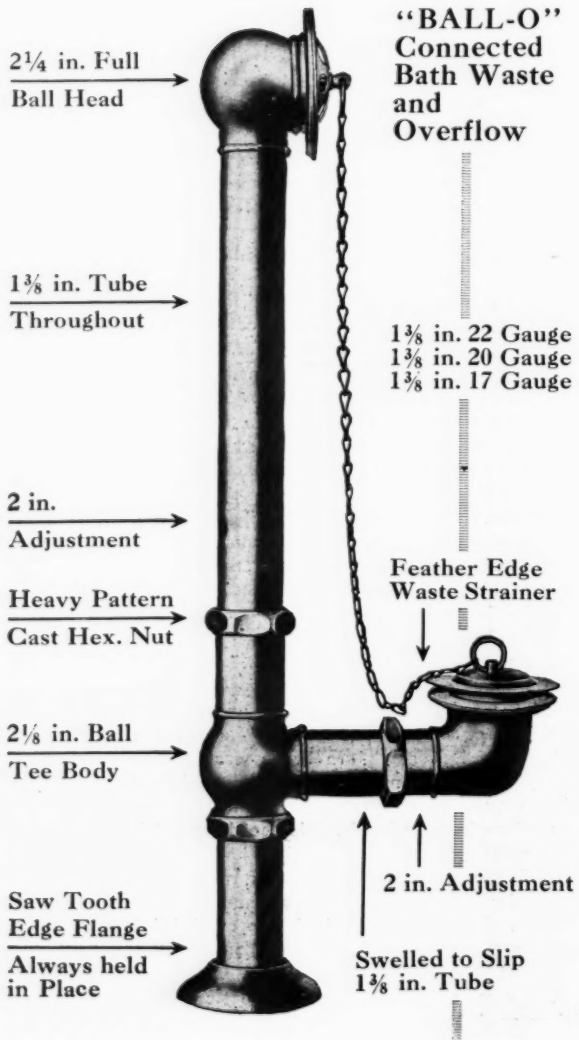
Why Take Brass Goods

Before you buy an artic
to know in advance thavi

Making every article as repres ha
to accept WISECO Products va
confidence.

Whenever you install a piecVIS
your customer what he pays far
value.

One of the latest additions to IS


2¼ in. Full Ball Head
1⅜ in. Tube Throughout
2 in. Adjustment
Heavy Pattern Cast Hex. Nut
2⅛ in. Ball Tee Body
Saw Tooth Edge Flange
Always held in Place
"BALL-O" Connected Bath Waste and Overflow
1⅜ in. 22 Gauge
1⅜ in. 20 Gauge
1⅜ in. 17 Gauge
Feather Edge Waste Strainer
2 in. Adjustment
Swelled to Slip 1⅜ in. Tube

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A substantial, heavy fixture, g
Like all WISECO Products, tAL
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Your jobbers i

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Manufacturers of PluSa

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if Plumbers' Brass Goods you have a right
will live up to all claims made for it.

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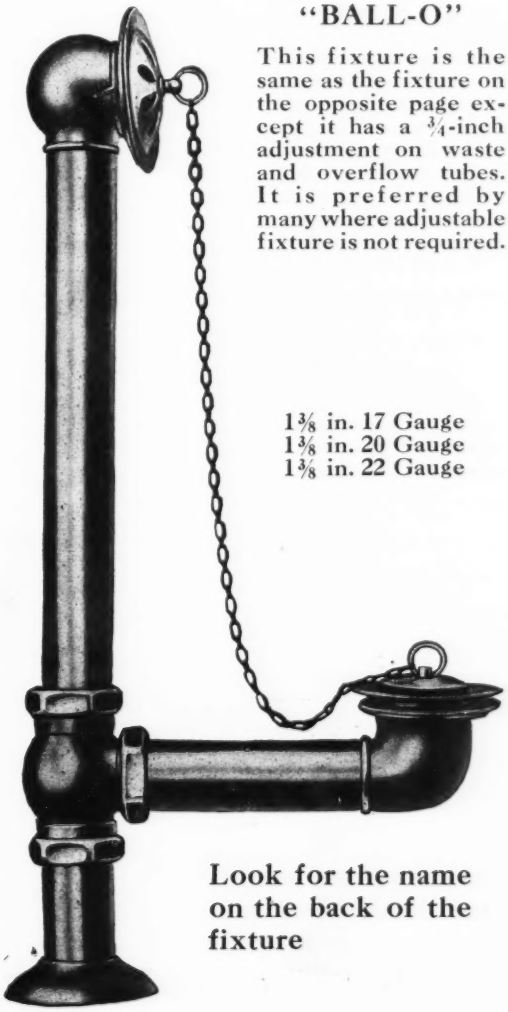
Pl Sanitary Brass Goods



"BALL-O"

This fixture is the same as the fixture on the opposite page except it has a ¾-inch adjustment on waste and overflow tubes. It is preferred by many where adjustable fixture is not required.

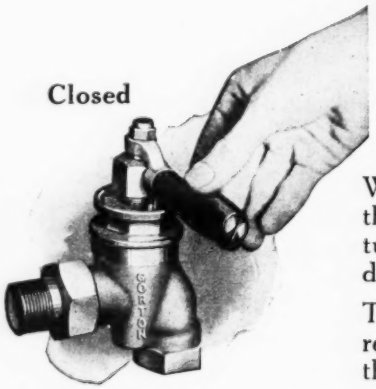
1⅜ in. 17 Gauge
1⅜ in. 20 Gauge
1⅜ in. 22 Gauge

Look for the name on the back of the fixture

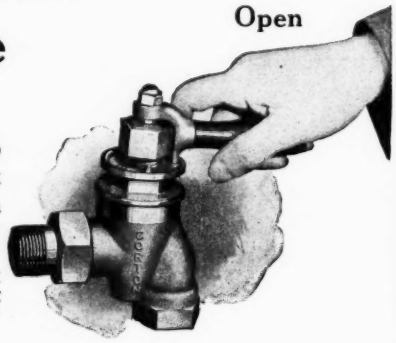
GORTON QUICK OPENING VALVE

A Quarter Turn of the Handle Opens or Closes the Valve

Closed



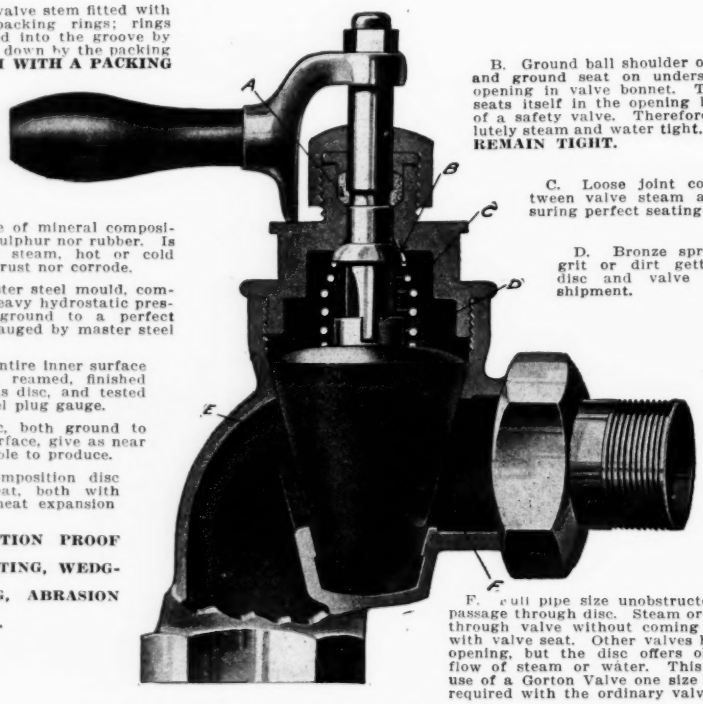
Open



Would you use a door knob that required five or six turns of the wrist to open a door?

Then why use a valve that requires nine or ten turns of the wrist to operate?

A. Groove in valve stem fitted with soft but firm packing rings; rings forced and locked into the groove by the gland forced down by the packing box nut. **A STEM WITH A PACKING LOCK.**



B. Ground ball shoulder on valve stem and ground seat on underside of stem opening in valve bonnet. This shoulder seats itself in the opening like the seat of a safety valve. Therefore, it is absolutely steam and water tight. **AND WILL REMAIN TIGHT.**

C. Loose joint connection between valve steam and disc—insuring perfect seating of disc.

D. Bronze spring prevents grit or dirt getting between disc and valve seat during shipment.

E. Disc made of mineral composition, no metal, sulphur nor rubber. Is not affected by steam, hot or cold water; will not rust nor corrode.

Cast in a master steel mould, compressed under heavy hydrostatic pressure, machine ground to a perfect taper surface, gauged by master steel cup gauge.

Valve seat is entire inner surface of valve, bored, reamed, finished to same taper as disc, and tested with master steel plug gauge.

Seat and disc, both ground to perfect taper surface, give as near contact as possible to produce.

A mineral composition disc on a metal seat, both with same ratio of heat expansion

A COMBINATION PROOF AGAINST RUSTING, WEDGING, CUTTING, ABRASION AND LEAKING.

F. Full pipe size unobstructed horizontal passage through disc. Steam or water passes through valve without coming into contact with valve seat. Other valves have full size opening, but the disc offers obstruction to flow of steam or water. This permits the use of a Gorton Valve one size smaller than required with the ordinary valve.

See Sweet's Architectural Catalog, page 1635, for specifications

Write for Catalogs

Radiator and Straightway with and without Union

GORTON & LIDGERWOOD COMPANY

94 LIBERTY STREET, NEW YORK, N. Y.

AMONG THE PLUMBING AND HEATING CONTRACTORS

Illinois

Chicago and Vicinity.

The North and Northwest Side Master Plumbers' Pleasure Club will hold its annual outing and picnic at Schiller Park, Kolze, Ill., on Saturday, August 10th. This picturesque spot is the place where a number of outings have been held in past years by the club. Games, races and the usual baseball game will make the affair live and interesting. Refreshments will be served during the day. Master plumbers throughout the city are cordially invited to attend the picnic with their families. Many of the club members will motor to the grounds, while others will go by rail.

Haas & Hilton, of 2607 Wentworth Avenue, have been awarded the contract for the installation of the plumbing system in a warehouse, to be erected at a cost of $80,000, at 1300-14 North Branch Street.

The Adelman Heating Co., of 1305 South Crawford Avenue, will install the heating system in a store, office and loft building, to be remodeled at a cost of $70,000, at 3244 West Twelfth Street.

A. Stander, of 3939 South Kedzie Avenue, has secured the contract for installing the plumbing system in a two-apartment building to be erected at a cost of $6,000, at 4109-10 South Sacramento Avenue.

H. Miller, of 2425 West Forty-fifth Street, will install the plumbing in four buildings of two apartments each, to be erected at 5037-43 Maplewood Avenue.

The Mortimer & Ryan Co., of 4308 Cottage Grove Avenue, has been awarded the contract for the installation of modern plumbing in three railway stations to be built at Sixty-fourth, Sixty-sixth and Sixty-seventh Streets. The heating contract went to Kehm Bros. Co., of 13 West Kinzie Street.

George Leebody, of 3613 North Ashland Avenue, has secured the contract to install plumbing systems in two residences to be erected at 4922 and 4924 Henderson Street.

E. C. Oakes, of 3634 Fullerton Avenue, will remodel the plumbing in a public garage at 3637-39 Southport Avenue.

Schampel & Dougherty, of 175 Washington Street, have been awarded the contract to install the heating system in a store and flat building, to be erected at a cost of $11,000, at 10056 Ewing Avenue.

The Kostlevy Co., of 814 West Eighteenth Street, has secured the contract for the installation of plumbing in a new residence at Cicero.

P. K. Clayton, of 1949 Western Avenue, will install the plumbing system in a factory to be constructed, at a cost of $12,000, at 1812-16 Milwaukee Avenue.

J. J. Wade & Sons, of 551 Fulton Street, have been awarded the contract to install the plumbing in a store at 614 South Michigan Avenue, which is to be remodeled at a cost of $45,000.

The Robert Gordon Co., of 622 West Monroe Street, has been awarded the contract for the installation of the heating system in a $75,000 foundry at Thirty-first and Wood Streets.

B. Handler, of 110 Blue Island Avenue, will install the plumbing system in an apartment building to be erected at 3816 Washington Boulevard.

Michigan

Michigan Plumbers Establish Lucrative Side Line.

Taking on fur trading as a profitable sideline in the plumbing business may seem a far-fetched proposition. Yet it has actually been accomplished. Three of the leading plumbing contractors of Grand Rapids, Mich., have embarked into a lucrative and luxurious business—a regular gentleman's business. They have gone into the breeding of silver black foxes and have established a ranch of thirty acres just outside of the city. A co-partnership has been formed to be known as the Grand Rapids Silver Black Fox Co. The officers are: Carl Newman, president; E. W. Kreuger, vice-president; William A. Decker, secretary and treasurer. The idea came as an inspiration to Carl Newman after a trip to Prince Edward's Island where silver-

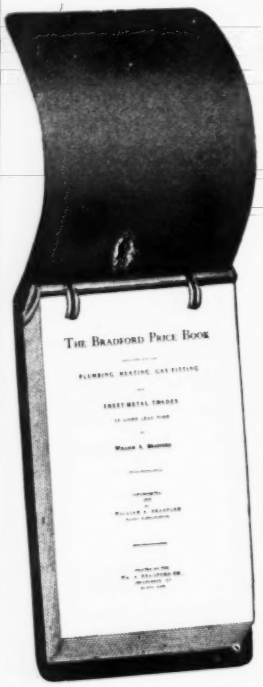
Corner of the Silver Black Fox Ranch. Owned by Three Grand Rapids Master Plumbers.

black fox breeding has become a famous industry, $20,000,000 being invested in the business there. Later "Bill" Decker caught the inspiration and he handed it to E. W. Kreuger. And so in January, 1918, these gentlemen went into the game. The company has at the present time three pair of foxes which are breeding, and have already sold three pair of unborn pups for $7,500 to be delivered on September 1, 1918. On that date the officers state that they will have $17,000 worth of foxes on the ranch, with a full return on their original investment of $7,500. It appears that the attractive feature about the business is that is it a product which is sold only to the ultra-rich and all for spot cash. "Selling this fox fur is like selling diamonds," declared "Bill" Decker recently.

Your Profits Assured

Buying right is an important matter for the plumber and steamfitter, but equally important is pricing right the articles you sell or put into a job.

Unless you add the proper percentage to your Net cost of each item, your business will fail to show the profit it should at the end of the year. The solution is easy—use the



Bradford Price Book

In addition to the List price, it gives at a glance the exact Net and Resale figures on each item. No guessing. No errors. Worth many times its cost.

Size of pages 5x9 inches. Bound in flexible loose-leaf, 4-ring binder.

15 Days' Trial

On receipt of $12 the Bradford Price Book will be sent to you. If not satisfactory, return within 15 days and money will be refunded. Check to accompany order.

Write for free sample sheets.

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Department C

7 Maple Street Quincy, Mass.

Massachusetts

Boston and Vicinity.

The recent large draft calls have hit the plumbing industry hard. Practically every shop of any size has had one or more men taken away, and when the men recently registered are called to the colors the effect will be felt even more, for the journeymen plumbers as a rule are young men, and in many cases single men. The master plumbers, however, are not complaining for they take off their hats to no class of employers, when it comes to real Americanism.

Plans for the erection of homes for war workers in factory and ship yard communities, which are rapidly taking definite shape, give prospects for many good plumbing and heating contracts during the next few months so that the restrictions on unsettled building probably will be less seriously felt in this state than in many other sections. The ever-increasing school population, necessitating the continual construction of new schoolhouses, also is beneficial to the plumbing industry. Plans already have been made in many sections for the erection of new buildings during the summer and fall and will furnish good contracts for the successful bidders for the heating and plumbing.

George M. Bruce, an Arlington plumber, and Kenneth P. Palmer, conducting a similar business at Bedford, recently have filed petitions in bankruptcy. Bruce listed liabilities of $6,469 and Palmer $6,812.

The Master Plumbers' Association of Boston and Vicinity held its last meeting of the season at the association rooms, 53 State Street, Boston, on Tuesday evening, June 25th. The evening was given over to speakers in the Trade Extension campaign, including State President Daniel F. Carroll, of Lowell, former National President James S. Cassedy, of Cambridge, G. Wilbur Thompson, of Newton, state director; E. F. Butler, of E. F. Butler & Co., and Henry G. Starr. The talks on salesmanship and kindred subjects were listened to with much interest by the members.

The Worcester public buildings committee has voted to install new plumbing in the Providence Street schoolhouse.

Moriarty Bros., of South Hadley Falls, have been awarded the contract for the installation of a new heating plant in the village fire station.

Connecticut

In order that Bridgeport master plumbers may not plead ignorance of the law as an excuse for violations of the plumbing regulations, as they affect restaurants, the Bridgeport board of health has sent each a brief outline of the rules, which reads: "The following regulations relative to the installation of plumbing in restaurants must be observed, and restaurants will not be allowed to operate without providing the following: two-part wash tray of impervious matter, and two-inch vent. Each tray is to be trapped separately with proper cleanouts; ice-box or refrigerator must be connected to a water supplied sink properly trapped and vented; hot and cold running water lavatory for the washing of hands.

"Ice-box or refrigerator drains must not drip into the wash trays or lavatories, if in the toilet compartment. Kitchen toilets must have outside ventilation and vestibule provided with self-closing door.

"Before any plumbing work can be installed in any restaurant, the proprietor must first notify the chief sanitary inspector of the department of health. If the building and the location are suitable the proprietor will be so notified."

Work on the construction of one thousand new houses, to help solve the housing problem in Bridgeport, is to be started immediately, according to plans of the Bridgeport Housing Co. Through this company the city of Bridgeport has obtained a loan of $3,000,000 from the United States Government for building purposes. It is stated that the company has put in its property on a basis of $600,000 and that the government will loan 80 per cent of the cost of the houses at a five per cent interest rate and for a term of 15 years. It is planned to have most of the houses ready for occupancy by fall.

W. J. Wade, of Bridgeport, has the contract for installing plumbing and heating in a two-family house to be erected on Lindley Street for Rasey & Lineburgh.

Maine

Richard J. Griffin, a Portland master plumber, has been appointed by the board of health as plumbing inspector for that city. He takes office at once.

Arthur H. Moulton, a leading Portland master plumber and formerly plumbing inspector, has a real "War garden" at his farm at Jefferson, N. H. He has planted an extensive area and spends his week-ends and such other time, as he can spare from business, taking care of the crops. He reports everything coming along nicely and looks for a good yield.

Rhode Island

Much school repair work, including installation of new plumbing and changes in heating arrangements, is planned for the summer months in various Rhode Island cities. In several instances bids already have been received, and work will be started shortly.

The town of Bristol has voted to advertise for bids for a new heating plant for the Burton school building and is considering the installation of a new blower at the Reynolds school as part of the ventilating system.

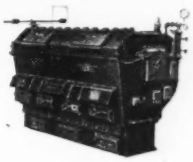
At North Smithfield an appropriation of $3,500 has been made to cover the cost of a new heating plant in the Slaterville schoolhouse. Providence, Pawtucket, Newport and other cities also have plans for considerable similar work under advisement.

Gallagher Bros. have the plumbing contract, and Edmund A. English the heating on a house on Laurel Avenue, Providence, for M. Sutcliffe.

Kentucky

Louisville and Vicinity.

A large amount of Government work in and around Louisville will, no doubt, keep the local plumbers busy for some time to come. Plans have been made for a camp at West Point, Ky., just a few miles from the city, that will accommodate 53,000 men. The Alfred Struck Co., of Louisville, has been awarded the contract and will begin work in a short time. Plumbing contracts have not been let, but will no doubt interest Louisville plumbers.

ECONOMY  EFFICIENCY

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Pierce Down Draft, Magazine Feed, Smoke Consuming, Heating Boiler
Saves Fuel Labor
Manufactured only by
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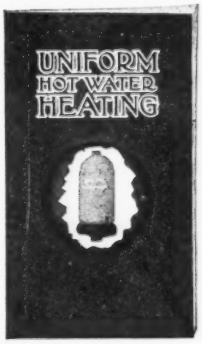

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It tells you all about the
Ball Seal Generator
for Hot Water Heating.
This generator increases circulation and radiation. Prevents sluggish, water-logged conditions. Reduces fuel cost. Operates without noise. No attention needed.
Just what you want for that next job.
The Ball Seal Generator Co.
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Watch This Space!
BARGAINS!
100 1¼" Penberthy Regrinding Globe Valves.
60 ¾" Walworth Gate Valves.
1", 1¼", 1½" and 2" Ex. Heavy P. & C. Checks.
⅜" Galv. Drop Ells.
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In what are you interested? What quantity?
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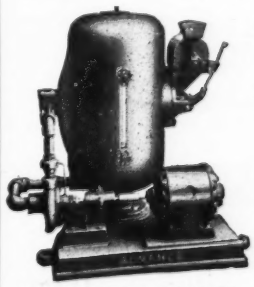
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Automatic in Operation
Electric Motor Driven
Obtain absolute protection against overloading and burning-out of motor by using "ADVANCE" Condensation Pump and Receiver Equipment.
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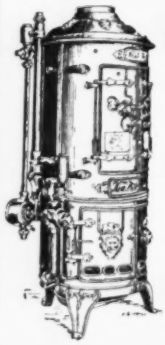

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on an appliance that will stand the "acid" test.

"Pittsburgh" Automatic Gas Water Heater is the most efficient and most durable water heater. It is the heater that stays sold.

Special sales helps for those who want to get ahead.

Pittsburg Water Heater Co.
PITTSBURGH, PA.

Pressweld Radiators
Save 15% on Fuel

It is your patriotic duty to install them. They are light, compact, quick-heating and save space. Can be hung on wall.

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American Pressweld Radiator Corp., Detroit, Mich.

"HAAS" WATER CLOSETS
are high grade, insuring maximum service and minimum expense
PHILIP HAAS CO., DAYTON, OHIO

Makes No Noise

A Quiet Pump in Your Home

You can keep Pump noise out of your home by keeping out the kind of a Pump that makes a noise.

The Geo. J. Roberts Co.
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Filters for Public Buildings
All Types for All Purposes
The New York Continental Jewell Filtration Co.
General Offices: Nutley, N. J.
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Happy Is the Man Who Uses the Martin Portable Vise Stand and Pipe Bender

because he knows he can carry it anywhere. All he has to do is to insert the legs and go to work.

Stands securely anywhere. Equipped with chain or hinged vise. Bender has capacity of ⅛ inch to ¾ inch. Vise capacity, 2 inches. (Patented Jan. 26, 1915.)

Write to-day for special 10-day free trial offer.

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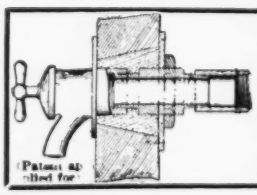

(Patent applied for)

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is a practical device for laundry tray improvements. Easily attached. Holds bibb in place by nut and washer arrangement. Leak-proof. Saves time and money

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THE LILGER COMPANY
1246 W. 72nd Place, Chicago, Ill.

Ground has been purchased by the Government at Pleasure Ridge Park, Ky., about six miles south of Louisville, which it is understood, will be used for a large powder plant. The nature of the plant has not been disclosed, but whatever it is, it will mean that there will be quite a bit of plumbing work to be done and the Louisville plumbers will be kept busy in keeping up with this and their regular work.

North Carolina

Charlotte.

Henry Hackney, of 34 West Fifth Street, Charlotte, has been awarded the contract for the installation of the plumbing and heating systems in the Glenn-Lowry Cotton Plant at Whitmore, S. C. Also a number of contracts for several other cotton mills. He was recently awarded the contracts for installing the plumbing and heating systems in the Charlotte National Bank Building and in two comfort stations in the city.

The A. R. Millman Co., of Charlotte, has recently installed the plumbing and heating systems in the Tate Brown property and in a church and parsonage.

Oklahoma

The O. K. Plumbing Co., of 104 North Main Street, Miami, will install the plumbing in the new $125,000 bank and office building at the corner of Central Avenue and Main Street, the new $100,000 James Building at First and Main Streets, and in J. F. Robinson's new $40,000 business building at 119 North Main Street.

The Reynolds Heating & Plumbing Co., of 103 South Main Street, Miami, has secured the contract for the installation of plumbing and heating systems in the new $125,000 Baptist Sanitarium at First and B Streets. This company has just finished the installation of three hundred and fifty plumbing fixtures and a modern heating system in the Miami Hotel.

Van T. Smith, of Wilburton, has finished the installation of plumbing, heating and ventilating systems in the Baptist church and is now remodeling the plumbing in several residences.

Minnesota

St. Paul and Vicinity.

Charles S. Schiller has taken out a permit for plumbing work on the one-story stone basement of the new St. Luke's Catholic church, Lexington and Summit Avenues, this being all that it is planned to construct at present. The specifications call for 700 feet of soil pipe, together with three closets, two wash basins, one kitchen and one slop sink. The contract amounts to $3,335.

Abe Sacks will install the plumbing in the three-story brick building owned by Morris Conefsky at 559 Wabasha Street, which is being remodeled for apartments. The contract amounts to $3,000.

Carl P. Dahlby will install the plumbing in the two-story frame of the Home Building Co., at Winifred and Bidwell Streets. The contract amounts to $1,000.

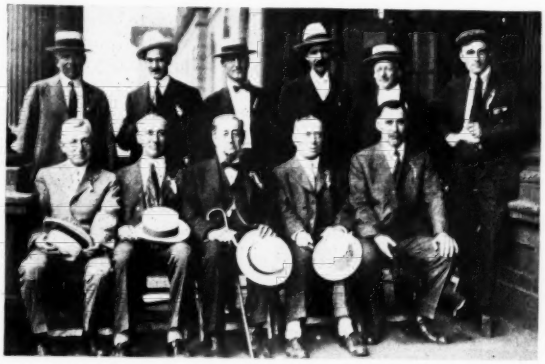
Charles Bergstrom is doing the plumbing work on the new residence of Andy Olson, 618 Orange Street.

T. J. Clark took out a permit for the plumbing work on the frame house of Mr. Guttenberg, 2229 Selby Avenue.

Other plumbing permits issued recently include the following: To R. J. Schnell for work on frame house; Wm. H. Geibler for work on frame house; Otto Gerber for work on frame house; John E. Holt for work on frame house; J. Wm. Martin for work on frame house; Paul Manteuffel for work on two frame houses.

Wisconsin

The Schwantes Plumbing Co., of 203 Second Street, Milwaukee, has been awarded the contract for the installation of the heating system in Kressge's five and ten cent store in that city. This company will also install the plumbing in the new residence of J. Niedecken at Pine Lake, Wis.



Delegates from Wisconsin.—From "Domestic Engineering" Photo, Taken at the St. Louis Convention of the National Association of Master Plumbers.

California

San Francisco and Vicinity.

According to City Attorney A. F. St. Sure, of Alameda, who has made a careful study of present conditions, it will be necessary to construct 5,000 residences in the East-bay district within the next year to house the 35,000 industrial workers to be employed in the Alameda county plants. Recognizing the need of prompt action by all the public-spirited men of the East-bay communities, the City Planning Commission of the city of Alameda is urging communities in these districts to prepare to take care of the situation. A committee consisting of City Manager Chas. E. Hewes, City Planning Consultant C. H. Cheney and City Engineer Hamilton, has been appointed to prepare a plan for the building of houses, which will be presented to the chambers of commerce, city councils and financial agents residing about the bay. The Federal Government will loan money to a corporation formed by a community for the purpose of industrial house building.

M. A. Slattery has contracted with the Western Pacific Railroad Co. to furnish and install modern plumbing in the freight-house building on S. W. 8th and Brannan Streets.

Figures are being taken from a selected list of contractors for alterations including electric work, heating and plumbing to be made in the French Hospital, Fifth Avenue and Geary Street. The estimated cost of the work is $10,000.

The White House, making alterations on the store to the amount of $100,000, is receiving bids for all plumbing and

Cleveland Flush Valves
Simple Sanitary Satisfactory
Designed for general use, and especially where hard usage is unavoidable. Lever or push button action.
Write for our Special Sample Valve Offer.
Cleveland Flush Meter Company
Noble Court and West 2nd Street Cleveland, Ohio

No. 2A Thermostat
ROBERTSHAW MFG. CO. YOUNGWOOD, PA.
The standard for 30-40 gal. boilers, and single coil heaters or equivalent. Has ¾-in. gas openings.
We Make All Sizes

UNCLE SAM has tested our
STANDARD PORTABLE VISE BENCH AND PIPE BENDER
and same has proved satisfactory. HE is now one of the THOUSANDS of satisfied users we have. Drop us a line and we will send you full particulars, or ask your jobber for same.
STANDARD IRON WORKS
508-10 E. 74th Street, New York City

DESOLVO Clears Clogged Pipes
The Original and Only pipe cleaner that can be used successfully with Cold water.
Used by progressive plumbers everywhere.
Order from your jobber.
The Chamberlain Company
Manufacturing Chemists Pittsburgh, Pa.
K-K Cleans closet bowls "the sanitary way."

SUCTION PUMPS and Complete Water Supply Systems, pumping capacities 120 to 1,000 gallons per hour.
Efficient Deep Well Pumps with Hyatt Roller Bearings and silent chain drive, pumping capacities 150 to 2,000 gallons per hour. Write for bulletins and price sheets.
The Dayton Pump & Manufacturing Co.
Cleveland, Ohio, Leader-News Bldg. DAYTON, OHIO New York, N. Y. 30 E. 42d Street

PORTABLE SHOWERS
SPECIAL PRICES IN DOZEN LOTS
SHOWERS OF ALL DESCRIPTIONS
GOETZ BRASS COMPANY
630 N. FRANKLIN ST. CHICAGO, ILLINOIS

"Femco" Fittings
Goods that make good *Quality first, last and always*
We make a complete line of Plumbers' Brass Supplies for all requirements. Write for prices.
Frost Manufacturing Co. Kenosha, Wis.

ALLEN FLUX
NON-ACID—FOR SODERING
Be sure you have one of our handsome display cartons on your counter. It makes steady customers for Allen Soder Sticks.
Only Flux Approved By National Board of Fire Underwriters
First non-acid sodering flux on the market. Makes a joint three times as strong as muriatic acid. Resists corrosion, non-poisonous. Stick, Paste, Liquid or Salts. Convenient and Speedy. Sample Free.
L. B. ALLEN CO., Inc.,
4526 N. Lincoln St., Chicago

An Air Valve With a Reputation

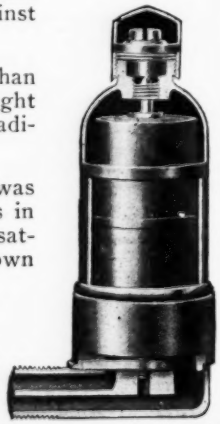
Russell's Perfect Automatic Air Valve

has a sealed metal float in the shell of the valve, which is flexible top and bottom and partially filled under vacuum with a sensitive fluid.

When cold the valve is open, freely venting the radiator of accumulated air. When steam reaches the valve, the vaporizing of the fluid expands the expansion float and closes the valve against loss of steam.

The float is lighter than water and will close tight should water enter the radiator.

Ever since this valve was put on the market by us in 1890, it has given entire satisfaction under every known heating condition.



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W. A. RUSSELL & CO.
63 West 37th Street New York N.Y.

Many years of experience has qualified

CRANE CO.

to give dependable advice on all phases of heating, plumbing, vacuum-cleaning and refrigeration. A call at any of its branch houses in fifty-three leading cities throughout the country will offer the visitor expert knowledge about

CRANE PRODUCTS

and actual demonstration of the goods.

CRANE CO.

Works—Chicago and Bridgeport

electrical work. Similar bids, including remodeling of heating, are being invited for changes to be made in the stores and offices of the H. Liebes Co.

Other Cities in the State.

Figures will be taken in the next few days for the plumbing in a one story bank to be erected at Manteca for the bank of South San Joaquin. The building will cost about $20,000.

Plans are being discussed for the erection of a tuberculosis hospital in some section of the North-bay counties, probably in Santa Rosa.

Within a few days contracts will be awarded for the electric wiring and heating of the $60,000 addition to the People's Saving Bank at the corner of Eighth and J Streets, Sacramento.

Sometime during the fall bids will be called for the work on a $37,000 building to be erected by C. A. Andrews at the corner of Broadway and Fifth Streets, Chico. The second floor is to contain lodge rooms, and the ground floor, four stores.

Notice has been given that the Board of Education of Los Angeles has postponed the opening of bids for the plumbing work for the lathe room, machine shop, shower and locker rooms, etc., at the Gardena High School.

The Englehart Paving & Construction Co., 210 "B" Street, Eureka, was awarded the contract, at $52,925, for the construction of the new one and two-story frame high school to be erected at Arcata. Sub-contracts will be let within a few days.

The city trustees of Newport Beach are asking for bids for the new sewer systems and sewer disposal plant estimated to cost $110,000. A site for the septic tanks has been purchased.

Washington

The Todd Drydock & Construction Co., of Tacoma, is inviting bids on all work for a 300-room hotel to cost $150,000. The hotel will be located near the entrance of the Todd shipyard, where contracts are held for more than $50,000,000 worth of ships. In addition to the hotel a dining and recreation hall to cost $50,000 has been started. Bids for the plumbing and wiring of several other new buildings near the plant are being invited. These include a hospital, office building, foundry, machine shop and a building for time-keepers.

Building activity in Everett is expected to make a tremendous leap forward, now that citizens are assured of the coming of a large new shipyard to that city, which will employ about 1,000 men. Several other important industrial enterprises are planned for Everett, which will materially increase the city's population and create a marked drain on the housing facilities. There is now an unusual activity on the part of owners of dwellings, that have run down and deteriorated, and immediate repairs are under way.

The Vancouver Home Co., Vancouver, has completed its organization, and it is expected that work will start in the near future on a number of new homes.

The little city of Kirkland on Lake Washington is entering upon an unusual era of building activity, due to the industrial development and shipyards being established at that point. Several new residential districts are being opened up, and the demand for houses is causing new homes to be sold before they are completed. Seattle plumbing and heating contractors are handling the greater part of that branch of the building activity, due to the proximity of the town to Seattle.

Beezer Bros., Seaboard Building, Seattle, are preparing plans for a brick and mill constructed Recreation Building for Sailors and Soldiers at Second and Washington Streets, Bremerton. General bids will be received, with separate proposals for plumbing and heating. The structure will cost in the neighborhood of $25,000.

It is announced that work will begin within thirty days on the construction of between three hundred and six hundred residences in Bremerton, to be built by the Government as a part of the housing program for workers at the Puget Sound Navy Yard. The bungalows will be four, five and six rooms each, and will be strictly modern in construction. It is also planned to construct a hotel in that city, which will be able to accommodate ninety families, also two and possibly five apartment houses. While not definitely announced, it is understood that contracts will be awarded separately for the plumbing to be installed in the residences, and for heating and plumbing in the hotel building.

Contract for the construction of the Troutlake School at Troutlake has been awarded by architects Tourtellotte & Hummel, of Portland, to M. H. Walter, Prosser, Wash., for $10,913. The contract for heating was warded to J. C. Bayer, Portland, for $1,222. Other bidders were: Moore & Meagher Company, Portland, $1,425; Alder Sheet Metal Works, Portland, $1,951; Rogge & Case, White Salmon, Wash., $1,489.

Oregon

Portland.

With the supply of vacant houses practically exhausted, and the demand for dwelling increasing daily by reason of the phenomenal industrial growth of the city, building activity in the residence section of Portland shows a marked upward trend. The increase in population in Portland has been far above normal, while the number of new residences have not kept up with the influx of residents. It is estimated by city officials, who have recently investigated the housing conditions in the city, that Portland should be building to accommodate five times the number of people shown in the yearly average gain in population.

Architect F. Manson White, Chamber of Commerce Building, Portland, has completed plans for the erection of the first unit of the school building to be built at Alderdale, Wash. This unit will be two-story, 72x40 ft., with separate building for the heating plant.

Appling-Griggs Co. of Portland, has received the contract for the installation of a heating system in the Catholic Hospital at Vancouver, Wash.

Astoria.

The Port of Astoria, recognizing the importance of the housing problem in that city, has taken the initiative in starting the movement for a great housing plan somewhere in the confines of the city. A site adjacent to the Port Docks, convenient to all the shipyards in the lower Columbia River District, has been selected, and arrangements for housing at least 5,000 workingmen will be made. Small buildings for families, and a hotel system for the men, such as has been adopted in various cantonments, will probably be the plan worked out.

The Astoria Marine Iron Works, Astoria, plans the erection of a hotel near its plant, that will accommodate 250 workmen of the company. The structure will be cost about $40,000 and will contain modern heating and plumbing systems.

Value Received

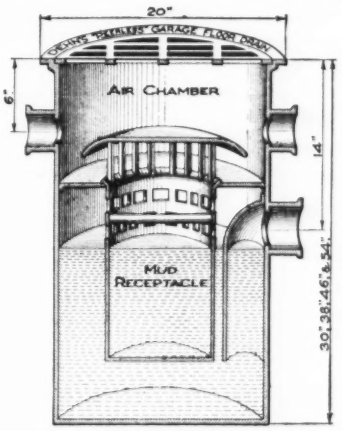

Fig. 62 Patented

When you install Dehn's "Peerless" Garage Drains your clients never stop talking about it. A wonderful installation. Value received.

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Originators, Designers and Sole Manufacturers of Dehn's Sanitary Safeguards

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"BUILDING BIGGER BUSINESS"

means go after the repair work as well as the new work

WOLVERINE SPECIALTIES

STAND BACK OF YOU

See Catalog "H"

WOLVERINE BRASS WORKS

GRAND RAPIDS, MICH. SAN FRANCISCO, CAL.

PATENTS

Over twenty years' experience in handling patent litigation, rendering opinions as to infringement and validity, and the preparation and prosecution of application for patents. References: Joseph A. Vogel Co., Wilmington, Del.; District National Bank, Washington, D. C.; Martindale's American Law Directory; Dun or Bradstreet. Correspondence invited.

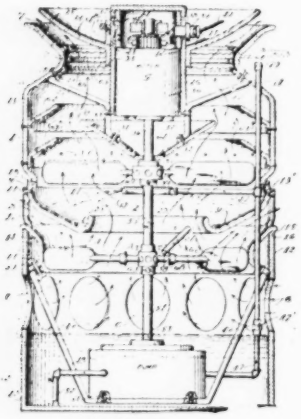
TALBERT & TALBERT, Patent Lawyers

5708 TALBERT BLDG. - WASHINGTON, D. C.

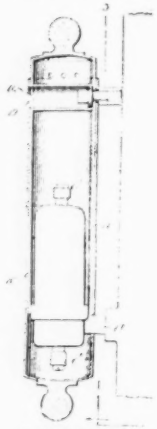
Patents

Heating Department.

1,266,966. Humidifying-fan. Willard M. McEwen, Chicago, Ill. A device of the character described, having an air passage, and comprising a casing disposed uprightly



1,266,966.



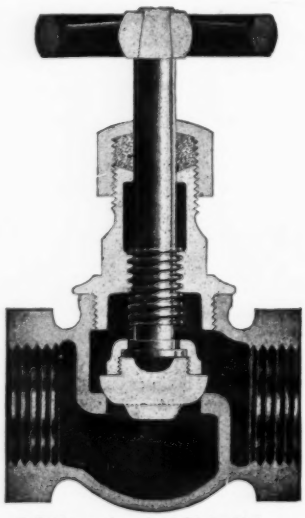
1,267,275

and containing a pair of fans positioned one above the other in spaced relation in said passage, and means for driving said fans, said casing being apertured near the bottom for admitting air from the room and near the top and intermediately for discharging air to the room, one of said fans being located between the medial and lowermost apertures and the other between the medial and uppermost apertures, said casing having an inwardly projecting guide between the medial aperture and the upper fan, and means for discharging spray into the passage above said guide.

1,267,275. Radiator air valve protector. George Rudischhauser, New York, N. Y. In a protector for radiator air valves, a tubular shell having an open end for receiving a radiator air valve, a similar tubular shell adapted to telescope over the first, a transverse socket in the first shell, and a set screw having an annular head adapted to be located within the socket, said screw being adapted to engage the two shells and secure the same to a radiator when said shells inclose a radiator air valve.

Plumbing Department.

1,266,675. Refilling valve mechanism for flush tanks. Edwin P. Gaylord, Rochester, N. Y. The combination with a tank, of a valve having a slotted end portion and governing the supply to said tank, a comparatively long controlling lever pivoted at a point in close proximity to the valve and having an operating surface in engagement with said slotted portion of the valve, a stationary support having a socket at its upper end, a float lever having a slotted portion within which the controlling lever moves and a pivot or bearing member adapted to removably engage said socket, the float lever embodying a comparatively long arm carrying a float member and a comparatively short arm on the opposite side of its pivot, and a connecting member pivoted to said arm and adapted to engage a socket in the end of the lever.



O-B Heavy Standard Globe Valve—
125 lbs. working pressure.

Look for the (B) *Trade Mark*

The O-B line of "Quality First" products includes Brass Disc Globe, Angle and Check Valves; J. D. Globe, Angle and Check Valves; Gate Valves; Hot Water Radiator Angle Valves; Steam Radiator Angle Corner and Offset Valves; Union Elbows.

Enduring Business and O-B Valves

Taking undeserved profits today means no profits at all tomorrow. That is a fundamental of every business—yours and ours.

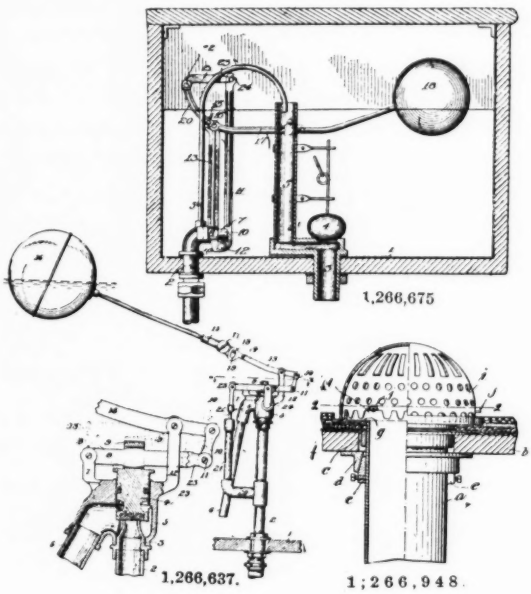
So from the first—more than twenty years ago—we have taken "Quality First" as our law and let the results follow logically.

Our reward is a constantly increasing number of customers among master plumbers who realize that it pays to install good materials.

Buy O-B Valves from your Supply House.

The Ohio Brass Company, Mansfield, Ohio

1,266,637. Tank inlet valve. Charles W. Snyder, Altoona, Pa. In an apparatus for governing the inlet valves of closet cisterns in combination, an inlet valve, a float for governing the movements of said valve, mechanism



1,266,675

1,266,637. 1,266,948.

intermediate said float and said valve for transmitting the motion of the float to the valve, said mechanism comprising an adjustable bi-partite float-carrying-member, a pin on said member, a lever secured to the valve casing, a pivot at the outer end of said lever to which said float carrying member is connected, said lever having a slot at its outer end in which said pin is working, and constituting a lost motion connection, a plunger subject to the pressure of the water on the inlet side of said valve, and connections between the said plunger and said mechanism, said connections being so arranged, that the closing of the valve is completed by the water pressure alone before and independently of the final movement of the float, substantially as described.

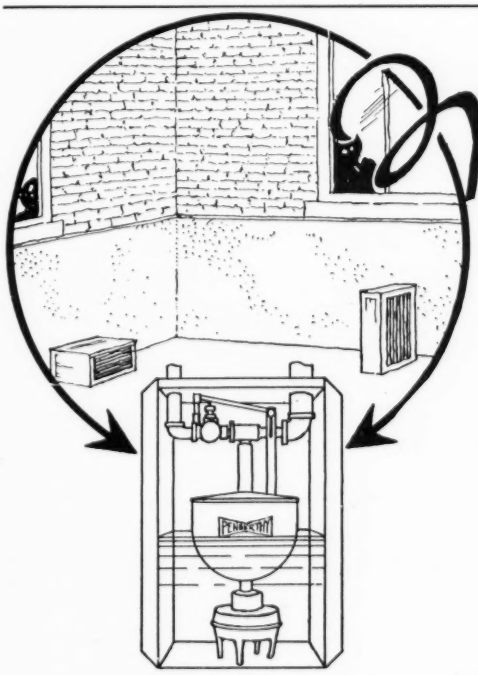
1,266,948. Gravel guard for roof drains. Charles L. Holt, Lawrence, Mass., assignor to Holt Roof Connection Co., Lawrence, Mass., a corporation of Massachusetts. In combination with a roof, a drain pipe extending therethrough and terminating approximately flush with the roof surface, a flat ring resting on the roof and encircling said pipe, a series of projections on said ring extending entirely about its inner periphery and spaced apart to provide drain passages therebetween, a cup-shaped strainer inverted over said pipe and having its rim resting on said ring beyond said projections at a substantial distance therefrom, and provided with drain passages in its rim-portion opposite said projections.

HEATING A BASE HOSPITAL.

(Continued from page 4.)

The original heating system was in operation all last winter and proved very successful as well as economical, and for that reason it was decided to extend the present system in order to obtain the best results at the least possible expense.

Buy War Savings Stamps.



No Surplus Water

can remain in the same place with the

TRADE PENBERTHY MARK **Automatic Cellar Drainer**

The average property owner will be glad to invest in a Penberthy Drainer if you explain to him the absolute protection it affords against flood water. You can secure a good volume of business of this kind among your regular customers and make a nice profit on each installation.

There is scarcely a Master Plumber who is not familiar with the Penberthy Drainer. It is neither new nor untried. Operates automatically by water or steam. All working parts above water. Will not rust, clog or corrode. Requires very little space and no attention. Noiseless. Made in five sizes.

Order from your jobber.
Write us for literature.

Penberthy Injector Company, Detroit, Mich.

New York Depot: 71 Beekman Street **(Established 1886)** **Canadian Factory: Windsor, Ont.**

Classified Advertisements

The charge for advertisements under this heading is $1.00 for 25 words or less, including heading and address; 4 cents each for additional words. To insure insertion, copy and remittance should reach us by Wednesday morning.

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WANTED — LIVE, RESPONSIBLE representatives for every state to call on the heating trade and architects, to sell the most sensational steam device ever marketed. Every steam heating job and power plant is a prospect. This device is absolutely new. Prevents broken sections, burned crown sheets and tubes and prevents explosions. Heating engineers with selling ability can clean up. No competition. Company just starting. Kelly Controller Company, 175 W. Jackson Blvd., Insurance Exchange Bldg., Chicago.
6-29; 7-6

Situations Wanted.

WANTED—UNION PLUMBER DESIRES steady position in Southwest. Have had thorough experience in all classes of work, including heating. High wages expected. Address 2540, care "Domestic Engineering," Chicago. 6-22

WANTED—PLUMBING AND HEATING engineer experienced general pipefitting lines desires position as general foreman, outside superintendent or estimator. First class references. Address 2541, care "Domestic Engineering," Chicago. 7-6

Miscellaneous.

WE BUY IRON PIPE COUPLINGS—spot cash. How many, either pounds or pieces have you of various sizes? Gwilliam Supply Co., 615 Christian Street, Philadelphia, Pa. 10-6,tf

SELL YOUR SURPLUS COUPLINGS and fittings. Write us. The A. & J. Mfg. Co., 557 W. Lake St., Chicago. tf

$1\frac{1}{2} \times \frac{3}{4}$ RED. ELLS

BIN LABELS
For water, gas and steam. Over 5,000 different kinds. Send for samples and prices. **Wesley A. Fink, Haddon Heights, N. J.**

Government Proposals

TREASURY DEPARTMENT, Supervising Architect's Office, Washington, D. C., June 21, 1918. Sealed proposals will be opened in this office at 3 p. m., July 19, 1918, for a new boiler, stack, etc., in the United States post office at Sedalia, Mo., in accordance with drawings and specifications, copies of which may be had at this office or at the office of the custodian, Sedalia, Mo., in the discretion of the Supervising Architect. Jas. A. Wetmore, Acting Supervising Architect.
6-29; 7-6

Use This Page To Get What You Want

If you are looking for competent employes; or if you contemplate a change in position, have a patent for sale; wish to purchase or sell a plumbing and heating business; second-hand machinery or tools; form a co-partnership, etc., your advertisement on this page will put you in touch with the people you desire to reach.

The cost of insertion is only four cents a word and may mean many dollars to you.

The AMERICAN Bent Tube Sink Trap

WITH CAST FEMALE IRON PIPE OUTLET

Fig. 2386

This trap can be furnished in either 1¼ inch or 1½ inch size.

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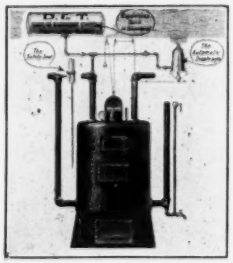

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costs less to install than other hot water heating systems, is cheaper to maintain and most efficient in service.

Automatically regulates dampers from 90 to 240 degrees. Rapid circulation; maintains even temperature.

Guaranteed for Five Years.

If you are not familiar with the D & T System, it will pay you to get acquainted. Write for latest Booklet.

D & T Manufacturing Co. 1911-13 Pine Street, ST. LOUIS, MO.

Use Only the
ORIGINAL
Double Drainage Drains

The Standard of America

Look for "JOSAM" on Every Drain

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EASTERN BRANCH: 7 W. 45th St., NEW YORK
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Since 1845 HAYDENVILLE, MASS.